SAMSUNG ELECTRONICS

SERVICE MANUAL

VR9180/9160/9180C/9160C/5160/5160C

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AC68-01467A

SAMSUNG

VIDEO CASSETTE RECORDER

Chassis : Scorpio

VR9180/9160/8160/5160

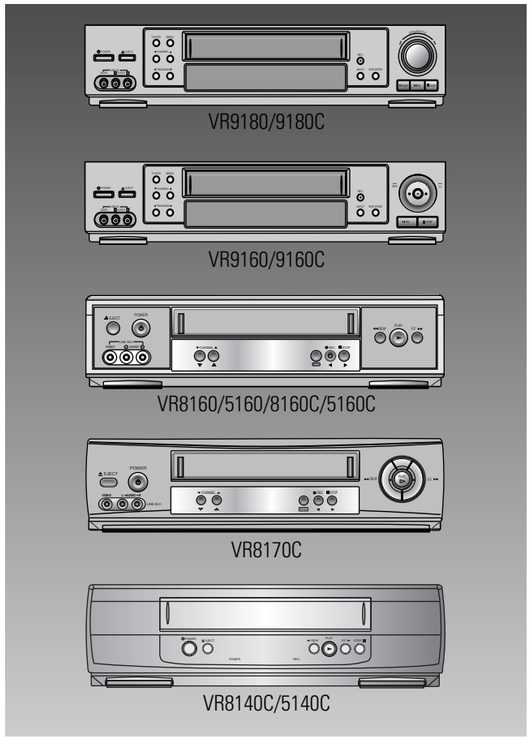
VR9180C/9160C/VR8170C/VR8160C/VR8140C

VR5160C/5140C

SERVICE Manual

For mechanical disassembly and adjustment, refer to the “Mechanical Manual” (TS-10 ➞ AC68-01405A).

VIDEO CASSETTE RECORDER



VR9180/9180C

VR9160/9160C

VR8160/5160/8160C/5160C

VR8170C

VR8140C/5140C

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1. Precautions

2. Alignment and Adjustment

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4. Electrical Parts List

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IMPORTANT SERVICE GUIDE

◆ MODE SWITCH (PROGRAM SWITCH) ASSEMBLY POINT

1) When installing the ass'y deck on the Main PCB, be sure to align the assembly point of mode switch.

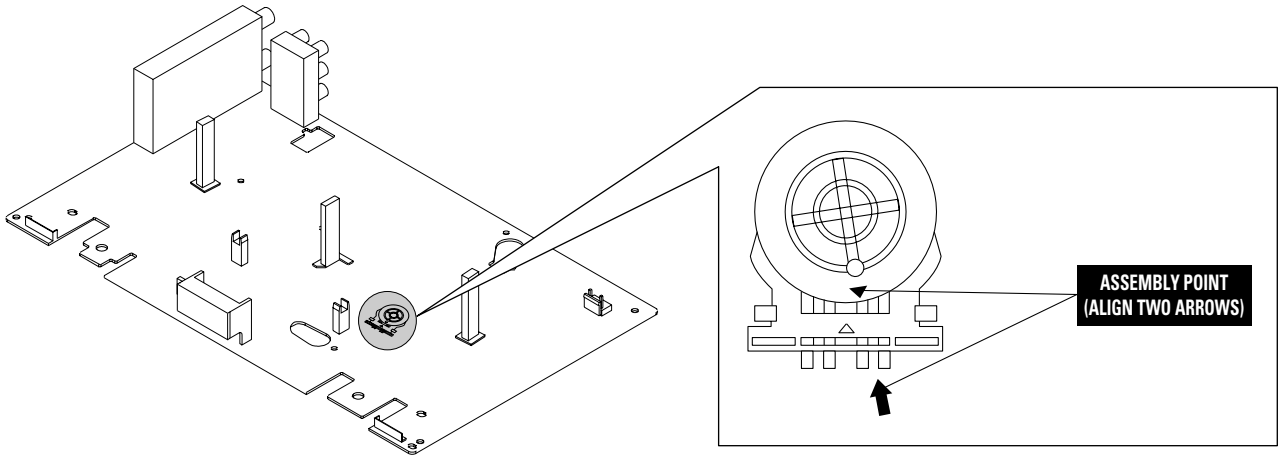


Fig. 1

◆ HOW TO EJECT THE CASSETTE TAPE
(If the unit does not operate on condition that tape is inserted into housing ass'y)

1) Turn the Gear Worm ❶ clockwise in the direction of arrow with screw driver. (See Fig. 2)
   (Other method ; Remove the screw of Motor Load Ass'y, Separate the Motor Load Ass'y)
2) When Slider S, T are approached in the position of unloading, rotate holder Clutch counterclockwise after inserting screw driver in the hole of frame's bottom in order to wind the unwiunded tape. (Refer to Fig. 3)
   (If you rotate Gear Worm ❶ continuously when tape is in state of unwinding, you may cause a tape contamination by grease and tape damage. Be sure to wind the unwiunded tape in the state of set horizontally.)
3) Rotate Gear Worm ❸ clockwise using screw driver again up to the state of eject mode and then pick out the tape. (Refer to Fig. 2)

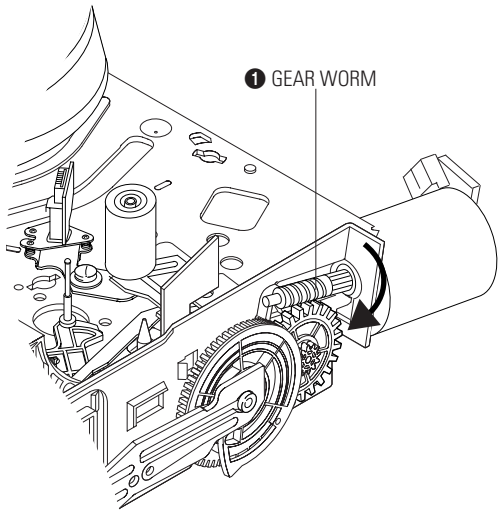


Fig. 2

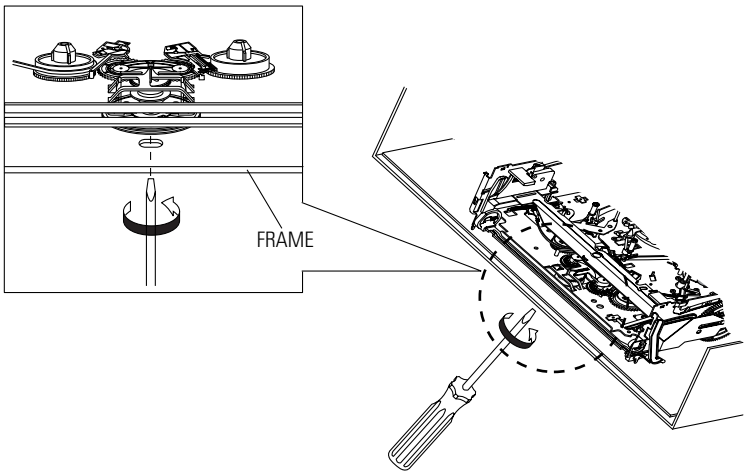


Fig. 3

1. Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including : control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people--particularly children --might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

   If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (See Fig. 1-1) :
   Warning : Do not use an isolation transformer during this test. Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

5. With the unit completely reassembled, plug the AC line cord directly the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including : antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

6. X-ray Limits :
   The picture tube is designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original.

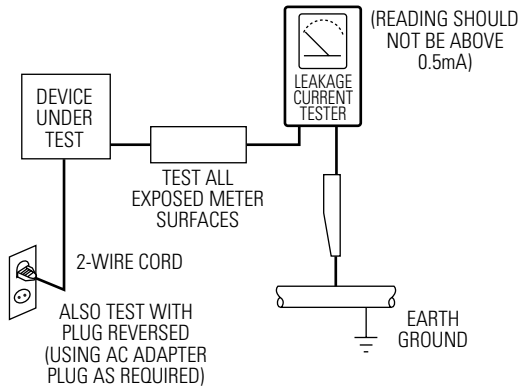

(READING SHOULD NOT BE ABOVE 0.5mA)
LEAKAGE CURRENT TESTER
DEVICE UNDER TEST
TEST ALL EXPOSED METER SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

Fig. 1-1 AC Leakage Test

7. Antenna Cold Check :
   With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong.
   Connect the other lead to the coaxial connector.

8. High Voltage Limit :
   High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits.

   Heed the high voltage limits. These include the X-ray protection Specifications Label, and the Product Safety and X-ray Warning Note on the service data schematic.

9. Some semiconductor ("solid state") devices are easily damaged by static electricity.
   Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.

10. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging Wrist-strap device. (Be sure to remove it prior to applying power--this is an electric shock precaution.)

11. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

12. Design Alteration Warning :
    Never alter or add to the mechanical or electrical design of this unit. Example : Do not add auxiliary audio or video connectors.
    Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

13. Hot Chassis Warning :
    Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following : Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

14. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.

15. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

16. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

17. Observe the original lead dress, especially near the following areas : Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

18. Picture Tube Implosion Warning :
    The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.

19. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.

20. Product Safety Notice :
    Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original--even if the replacement is rated for higher voltage, wattage, etc.

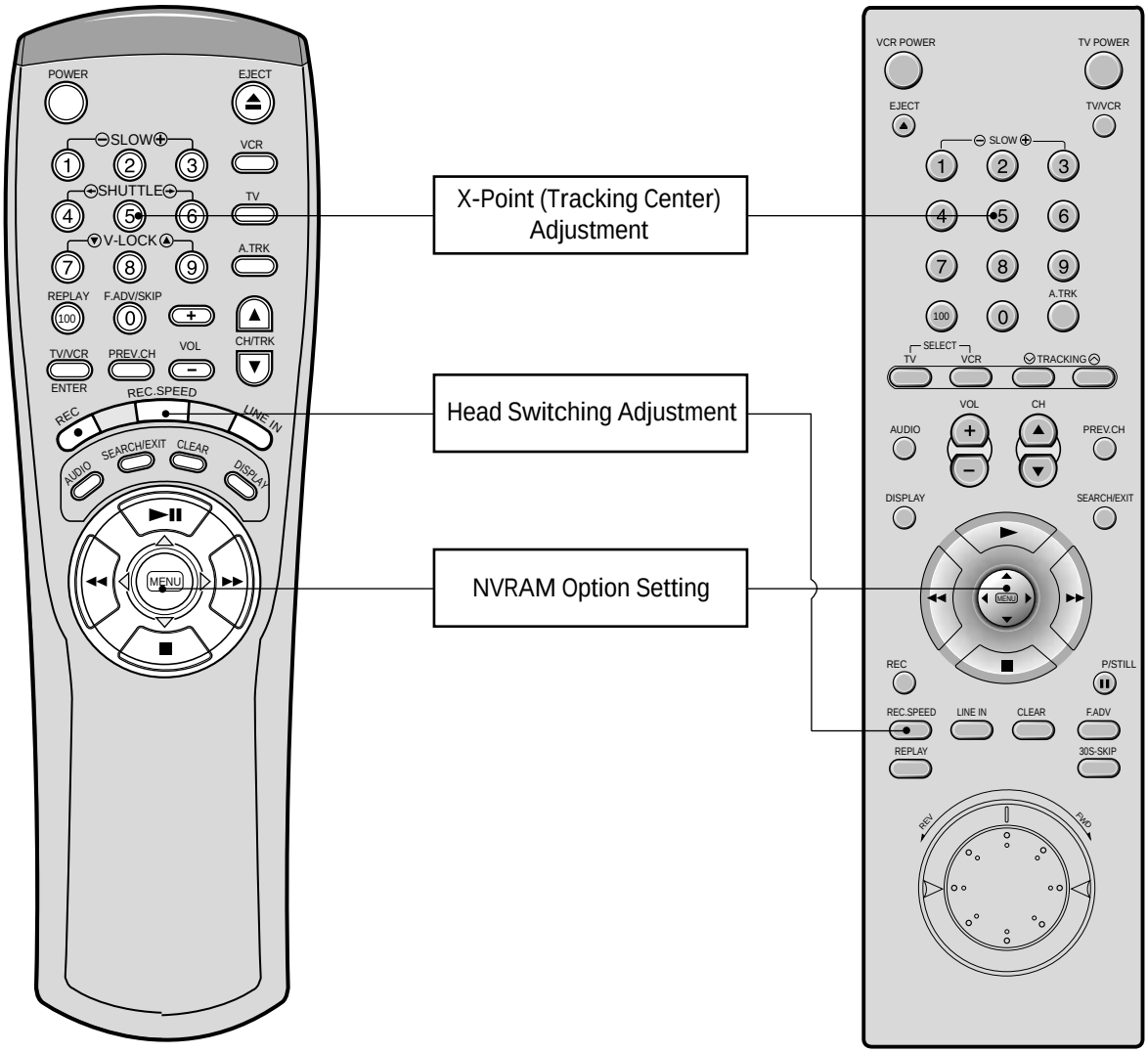
    Components that are critical for safety are indicated in the circuit diagram by shading, (⚠ or ⚠).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

2. Alignment and Adjustment

2-1 Reference

1) X-Point (Tracking center) adjustment, “Head switching adjustment” and “NVRAM option setting” can be adjusted with remote control.
2) When replacing the Micom (IC601) and NVRAM (IC603 ; EEPROM) be sure to adjust the “Head switching adjustment” and “NVRAM option setting”.
3) When replacing the cylinder ass’y, be sure to adjust the “X-Point” and “Head switching adjustment”.
4) Among Samsung VCR remote control used for adjustment as a accessory, only the remote control that has figures buttons (0 ~ 9) is available for all adjustment regardless of chassis.
5) How to adjustment.
   - Momently short-circuit the test point on Main PCB with pincers to set the adjustment mode.
   - If the corresponding adjustment button is pressed, the adjustment is performed automatically.
   - If the adjustment is completed, be sure to turn the power off.

2-1-1 Location of adjustment button of remote control



Remote Control for adjustment is not supplied as a Service Jig.

Fig. 2-1

2-1-2 Test point location for adjustment mode setting

Application Models ; VR9180/9160/9180C/9160C/8160/5160/8170C/8160C/5160C

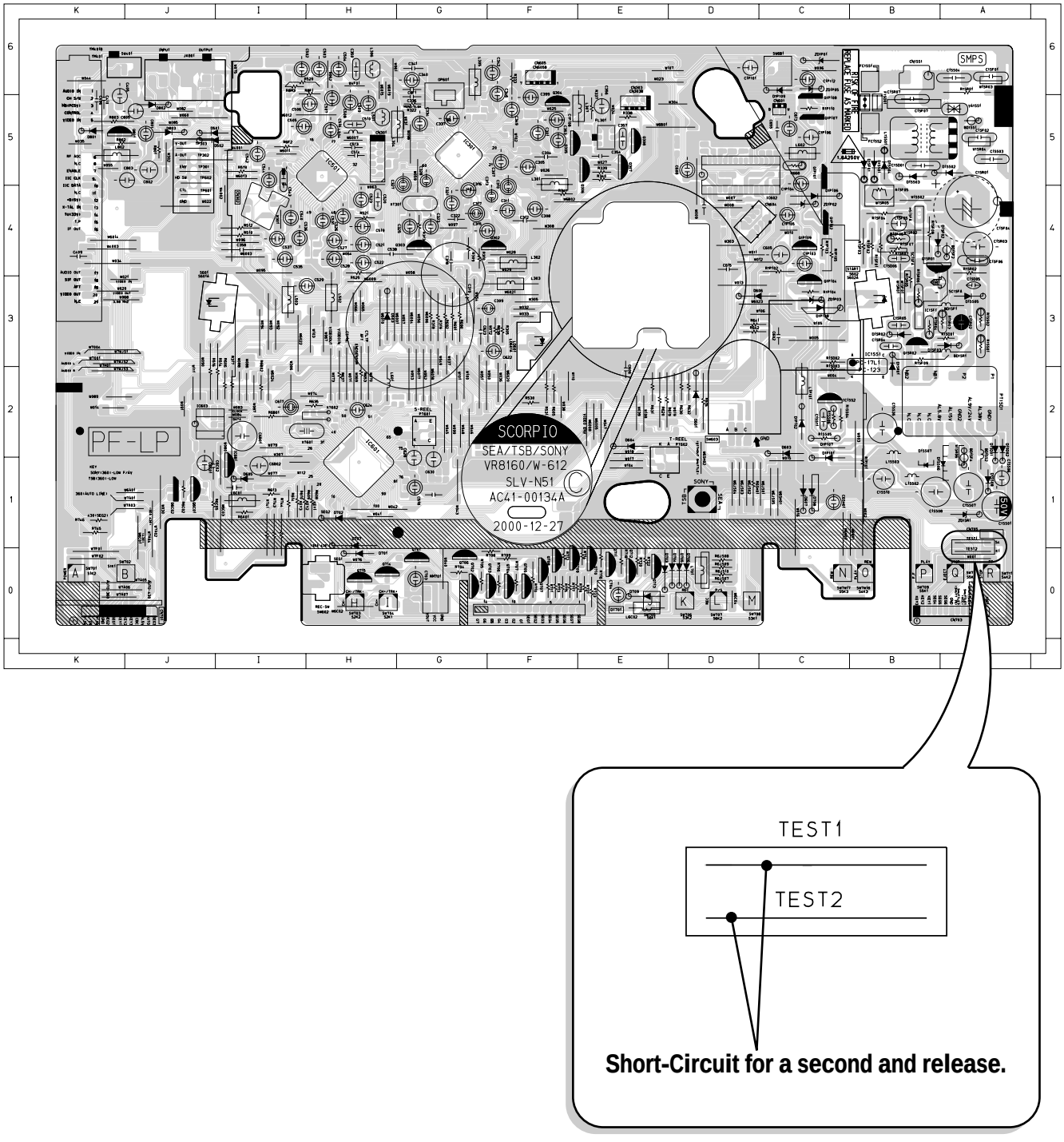


Fig. 2-2 Main PCB (Top View)

Application Models ; VR8140C/5140C

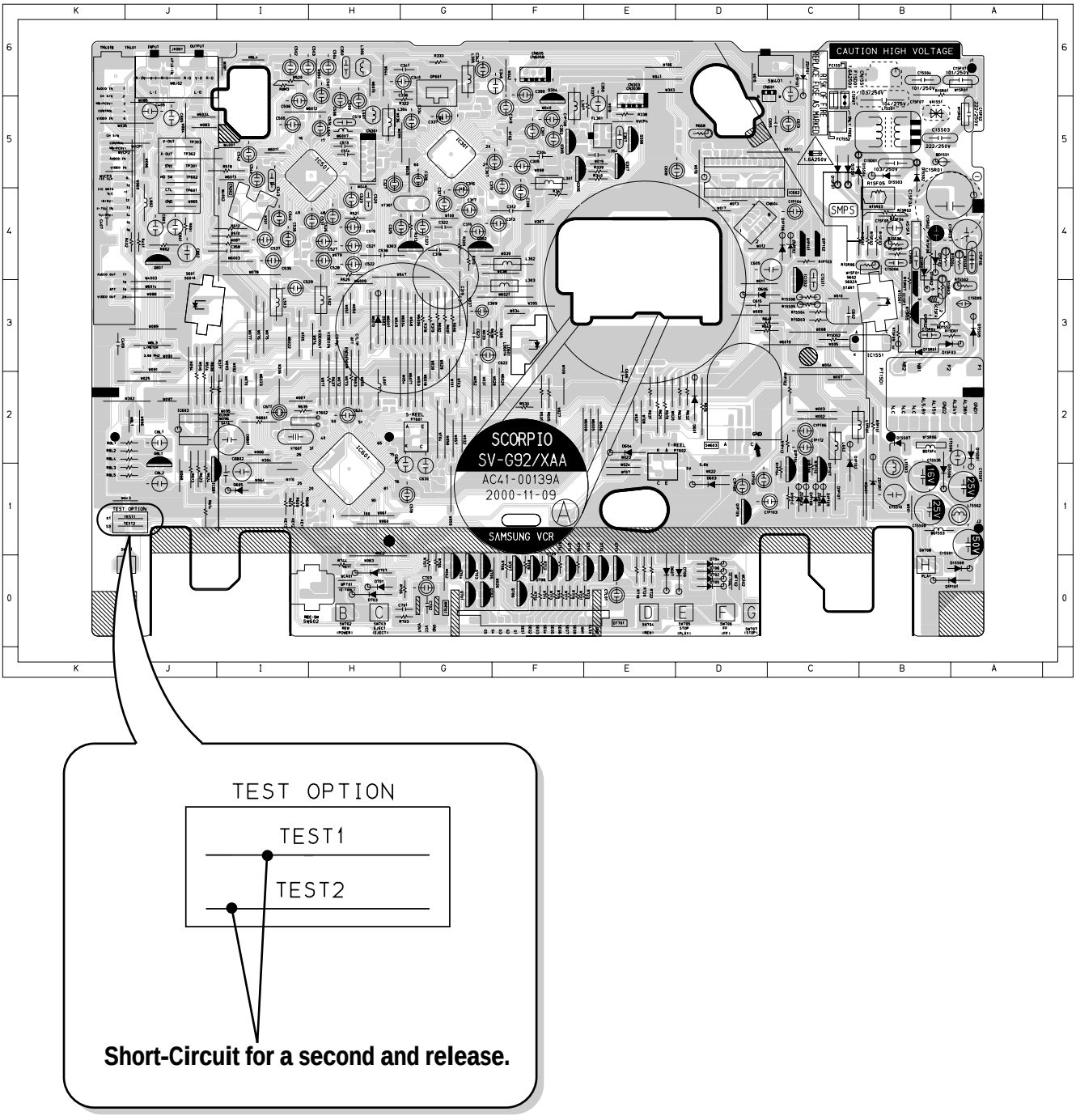


Fig. 2-3 Main PCB (Top View)

2-2 Mechanical Adjustment

Note : Refer to the Mechanical Manual “TS-10 (AC68-01405A)” for the adjustment and confirmation of ass’y deck.

2-2-1 The number and position of test point

Test point :	TP601 (Control Pulse)
	TP602 (H’D S/W -Trigger)
	TP301 (Envelope)
	TP302 (Audio output)
	TP303 (Video output)

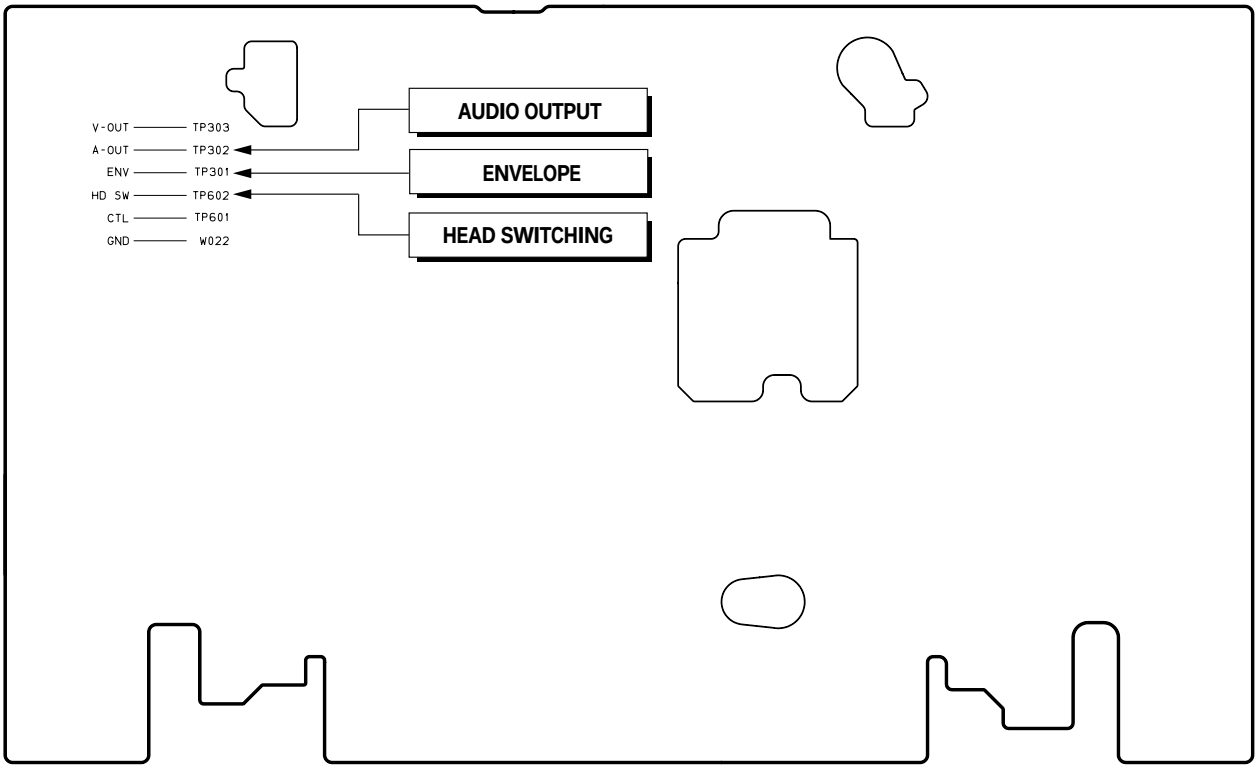


Fig. 2-4 Location of Test point (Main PCB-Top View)

2-2-2 ACE Head Position (X-Point) Adjustment

(See the 2-2-1(d) ACE Head Position (X-Point) Adjustment on page 2-2 of the Mechanical Manual)

1) Playback the alignment tape (Color bar).
2) Momently short-circuit the test point on Main PCB with pincers to set the adjustment mode. (See Fig. 2-2 and 2-3)
3) Press the “5” button of remote control then adjustment is operated automatically. (See Fig. 2-1)
4) Connect the CH-1 probe to TP301 (Envelope) the CH-2 probe to TP602 (H’D switching pulse) and then trigger to CH-1.
5) Insert the (-) driver into the X-Point adjustment hole and adjust it so that envelope waveform is maximum.
6) Turn the Power off.

2-3 Head Switching Point Adjustment

1) Playback the alignment tape.
2) Momently short-circuit the test point on Main PCB with pincers to set the adjustment mode.
   (See Fig. 2-2 and 2-3)
3) Press the “REC.SPEED” button of remote control then adjustment is operated automatically. (See Fig. 2-1)
4) Turn the Power off.

2-4 NVRAM Option Setting

1) NVRAM Option is adjusted at production line basically.
2) In case Micom (IC601) and NVRAM (IC603 ; EEPROM) is replaced, be sure to set the corresponding option number of the repaired model. (If the option is not set, the unit is not operated.)

1) Momently short-circuit the test point on Main PCB with pincers to set the adjustment mode.
   (See Fig. 2-2 and 2-3)
2) Press the “MENU” button on the remote control about 5 seconds then option setting display is appeared.
   (See Fig. 2-5)
3) Select the option number (See Table 2-1) of corresponding model with “FF” and “REW” button on the remote control.
4) If selecting the option number is completed, press the “STOP” button of remote control.
   (If “STOP” button is pressed, the selected number is changes reversed color. ; See Fig. 2-5)
5) Press the “MENU” button of remote control again to store the option number.
   (“COMPLETE” is displayed for a second as shown Fig. 2-6 and the setting is completed.)
6) Turn the Power off.

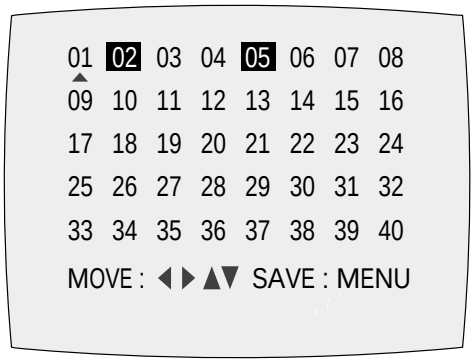


Fig. 2-5

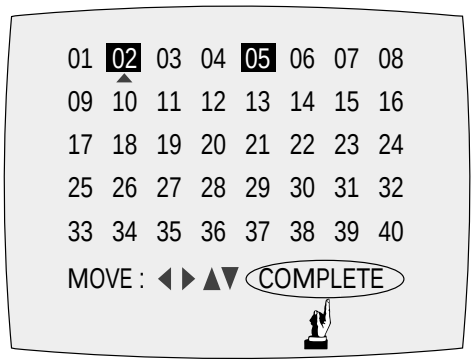


Fig. 2-6

<Table 2-1>

MODELS	OPTION NUMBER
VR9180	2, 4, 5, 6, 7, 10, 13, 14, 15, 24, 31, 32, 34, 37
VR9160	2, 4, 5, 6, 7, 10, 13, 15, 18, 31, 32, 34, 37
VR8160	2, 4, 5, 6, 7, 10, 15, 18, 25, 31, 34, 37
VR5160	4, 5, 6, 7, 15, 18, 25, 31, 34, 37
VR9180C	2, 4, 5, 6, 7, 10, 13, 14, 15, 24, 31, 32, 34, 37
VR9160C	2, 4, 5, 6, 7, 10, 13, 15, 18, 31, 32, 34, 37
VR8170C	2, 4, 5, 6, 7, 10, 15, 18, 25, 31, 34, 37
VR8160C	2, 4, 6, 7, 10, 15, 18, 25, 31, 34, 37
VR8140C	2, 4, 6, 7, 10, 12, 15, 20, 28, 30, 31, 37
VR5160C	4, 6, 7, 15, 18, 25, 31, 34, 37
VR5140C	4, 6, 7, 12, 15, 20, 28, 30, 31, 37

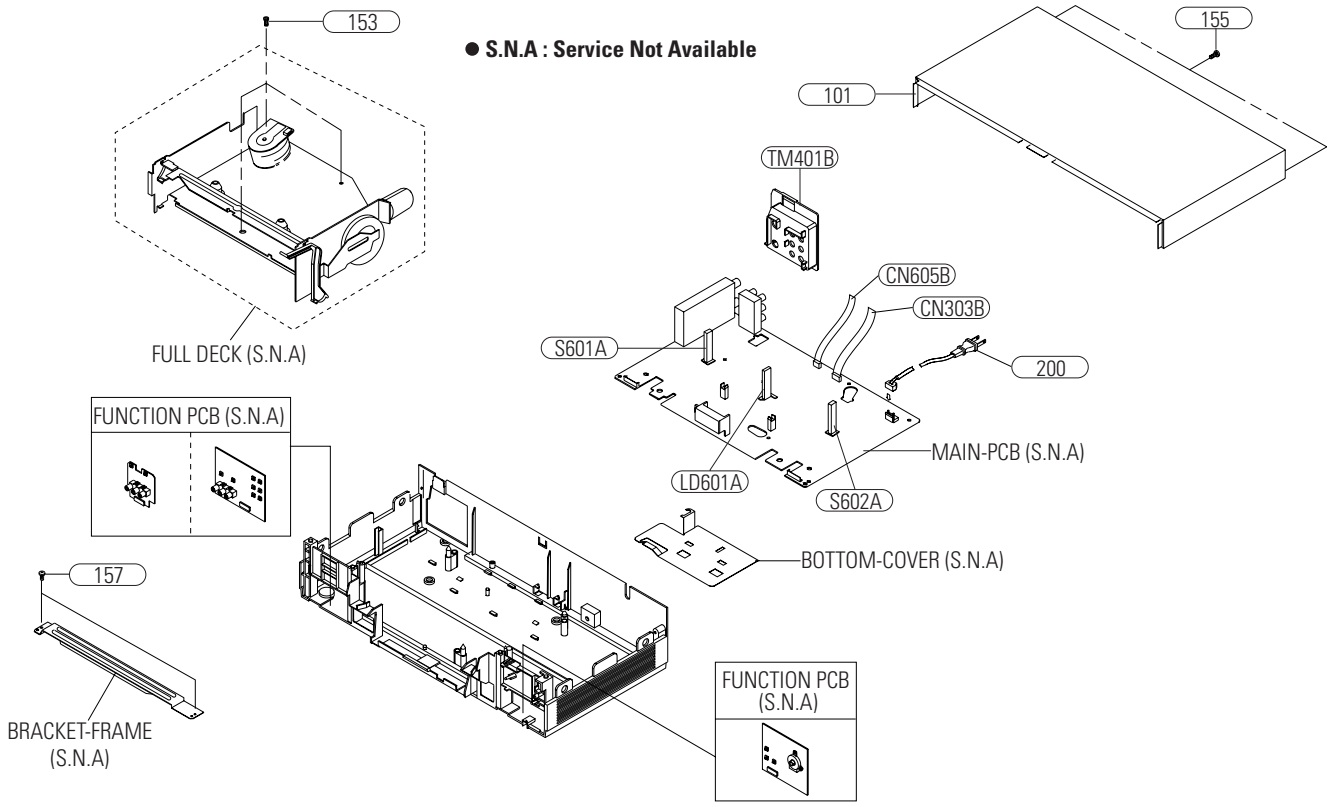
MEMO

3. Exploded View and Parts List

Page

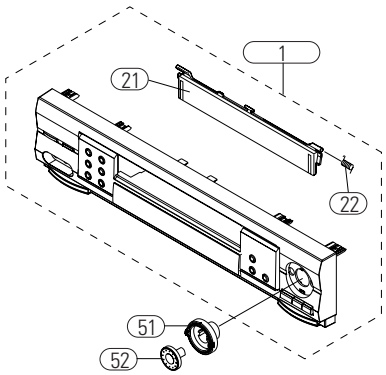
3-1 Cabinet Assembly - - -

3-1 Cabinet Assembly

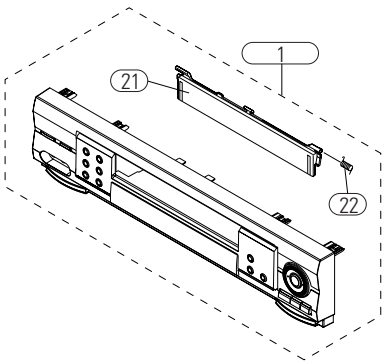


ASSY-PANEL FRONT

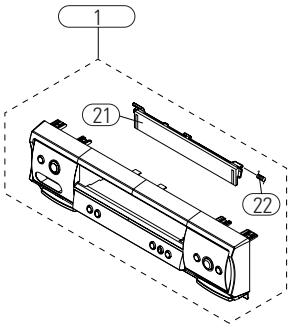
VR9180/9180C



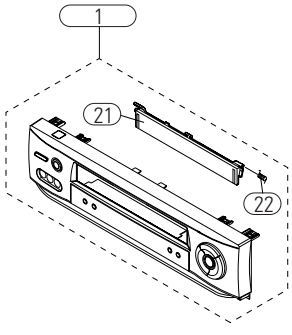
VR9160/9160C



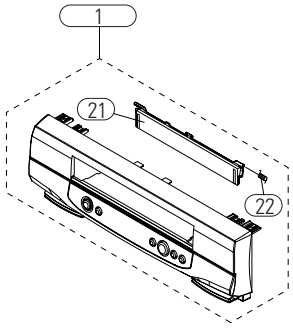
VR8160/5160/8160C/5160C



VR8170C



VR8140C/5140C



REMOTE-CONTROL

VR9180/9180C

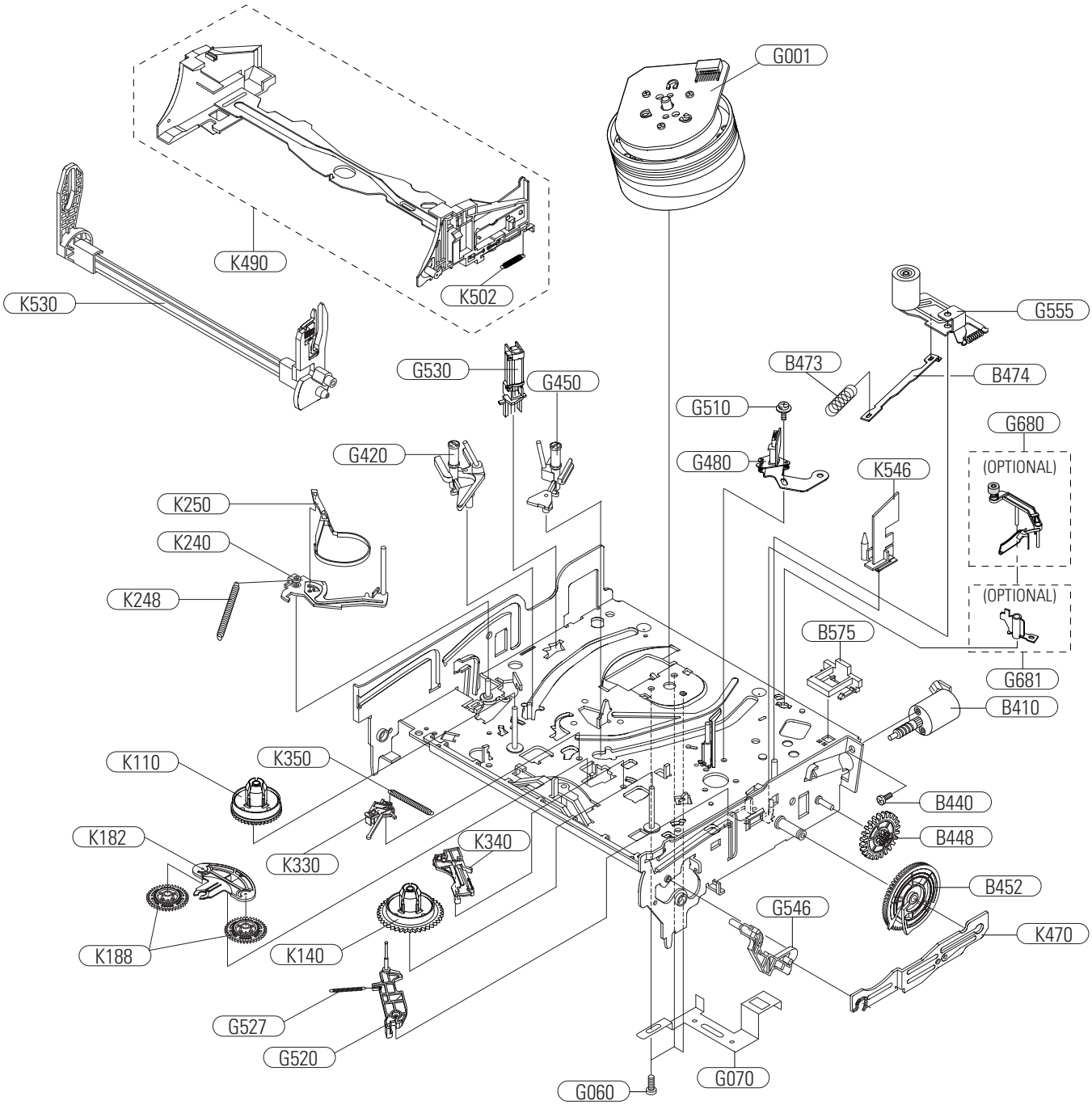
VR9160/8160/5160/9160C/8170C/8160C/5160C

VR8410C/5410C

Loc. No	Parts No.	Description ; Specification	Remark
1	**Refer to table below**	ASSY-PANEL FRONT;HIPS94V2,VR9180,BLK	
21	**Refer to table below**	DOOR-CASSETTE;VR9180,ABS94HBBLK,-,-,-,-,	
22	AC61-62032A	SPRING-MASK;X-9,-,SUS,-,4.4,-,SV-C130	
51	AC64-00616A	KNOB-JOG;01T,ABS,-,-,-,-	VR9180/9180C ONLY
52	AC64-00617A	KNOB-SHUTTLE;01T,ABS,-,-,-,-,-,-	VR9180/9180C ONLY
101	**Refer to table below**	CABINET TOP;VR9160,-,PCM(SECC),-,TM6524	
153	AC60-12126A	SCREW-BH;-,BH,-,4*12,FE,FZY,-,-,-	
155	AC60-12134A	SCREW-TAP BH;-,BH,-,2-4X16,-,FE	
157	AC60-10063A	SCREW-TAPTITE;BH,+,-,M3,L12,ZPC3,SWRCH18	
200	AC39-10200N	POWER-CORD;EP2,SPT-2,AWG#18,1.8MT,WAFER,	
CN303B	3809-001206	CABLE-FLAT;30V,-20to+80C,140mm,6P,1.25mm	
CN605B	3809-001131	CABLE-FLAT;30V,80C,110MM,7P,1.25MM,UL289	
LD601A	AC61-21009A	HOLDER-LED;-,POM(M90-44),-,BLK,-,X-9	
S601A	AC61-21008A	HOLDER-SENSOR;-,POM(M90-44),-,BLK,-,X-9	
S602A	AC61-21008A	HOLDER-SENSOR;-,POM(M90-44),-,BLK,-,X-9	
TM401B	**Refer to table below**	CONNECTOR-BOARD-ASSY;-,HIPS,-,T2,61,-,BL	
UT01	**Refer to table below**	REMOCON-ASSY	

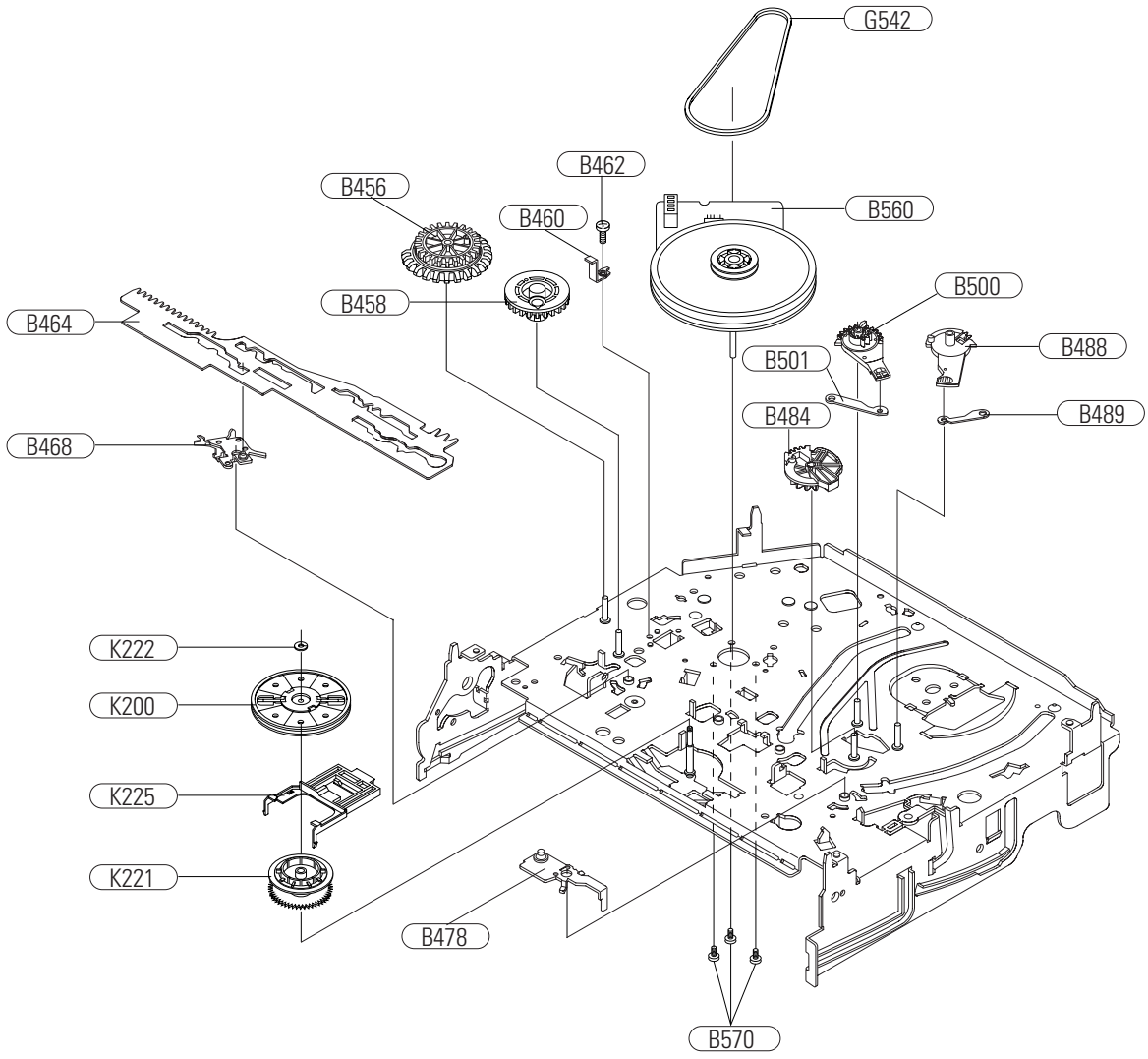
MODELS	1	21	101	TM401B	UT01
VR9180	AC97-01273B	AC64-00606C	AC64-00124D	AC61-00058A	AC59-00025C
VR9160	AC97-01273A	AC64-00606A	AC64-00124D	AC61-00058A	AC59-00024D
VR8160	AC97-01287A	AC64-00636A	AC64-00293A	AC61-00058A	AC59-00024C
VR5160	AC97-01287B	AC64-00636B	AC64-00293A	AC61-11054A	AC59-00024C
VR9180C	AC97-01237E	AC64-00606E	AC64-00124B	AC61-00058A	AC59-00025D
VR9160C	AC97-01273F	AC64-00606F	AC64-00124D	AC61-00058A	AC59-00024D
VR8170C	AC97-01278A	AC64-00637A	AC64-00293A	AC61-00058A	AC59-00024D
VR8160C	AC97-01287C	AC64-00636C	AC64-00293A	AC61-00058A	AC59-00024C
VR8140C	AC97-01245F	AC64-00535F	AC64-00292A	AC61-00002A	AC59-10420H
VR5160C	AC97-01287D	AC64-00636N	AC64-00293A	AC61-11054A	AC59-00024C
VR5140C	AC97-01245G	AC64-00535G	AC64-00292A	AC61-00050A	AC59-10420H

3-2 Mechanical Parts (Top Side)



Loc. No	Parts No.	Description ; Specification	Remark
B410	AC31-00012A	MOTOR-LOADING ASSY;-,TS-10,-,-,-,-,-,-,-	
B440	AC60-10515A	SCREW-MACHINE;-,PH,+,-,M3,L3,ZPC,-,YEL	
B448	AC66-00008A	GEAR-WORM WHEEL;TS-10,POM,0.8,40,-,NAT,3	
B452	AC66-00011A	GEAR-FL CAM;TS-10,POM,0.8,59,-,BLK,48.48	
B473	AC61-00105A	SPRING-PINCH DRIVE;TS-10,SUS304-WPB,-,-,	
B474	AC61-30180A	PLATE-JOINT;-,SECC20/20,T0.8,-,X-9	
B575	AC47-00002A	DAMPER-CAPSTAN;TS-10,POM,-,-,BLACK	
G001	AC97-01204A	ASSY-CYLINDER;NTSC,CTS10,6HD-JUST	HI-FI MODEL
	AC97-01202A	ASSY-CYLINDER;NTSC,CTS10,4HD-JUST	MONO MODEL
G060	6006-001092	SCREW-ASS'Y MACH;WS,PH,+,M3.0,L6.0,ZPC(Y	
G070	AC61-00161A	PLATE-GROUND DECK;TS-10,SPTE,T0.3,-	
G420	AC66-80142A	SLIDER-SUPPLY ASSY;-,X-9(TS),-,-,-,X-9	
G450	AC66-80141A	SLIDER-TAKE UP ASSY;-,X-9(TS),-,-,-,X-9	
G480	AC33-00009A	HEAD-ACE ASS'Y;-,PPS,TS-10,-,-	
G510	6006-001075	SCREW-ASS'Y TAPT;WSP,PH,+,M2.6,L5.0,ZPC(	
G520	AC66-00033A	LEVER-#9 GUIDE ASS'Y;TS-10,-,-,-,-,-,-,-	
G527	AC61-60553A	SPRING-#9 GUIDE;-,ES,SUS304-WPB,OD3.1,0.	
G530	AC33-00007A	HEAD-FE;-,-,HVFHPO043A,-,-	
G546	AC66-00005A	LEVER-FL DOOR;TS-10,POM,-,-,-,-,NAT,-	
G555	AC66-00032A	LEVER-UNIT PINCH ASS'Y;TS-10,-,-,-,-,-,-	
G680	AC66-00046A	LEVER-HEAD CLEANER ASS'Y;TS-10,POM+URETH	(OPTIONAL)
G681	AC61-50686A	SLEEVE-HEAD CLEANER;-,POM,-,-,-,-,-,-,TS	(OPTIONAL)
K110	AC66-10267A	REEL-DISK S;X-9,POM,-,-,-,-,-,-	
K140	AC66-10268A	REEL-DISK T;X-9,POM,-,-,-,-,-,-	
K182	AC66-30524A	LEVER-IDLER;-,POM,-,-,-,-,-,-	
K188	AC66-00039A	GEAR-IDLE;TS-10,PET K3372,0.5,-,-,NTR,28	
K240	AC66-00035A	LEVER-TENSION ASS'Y;TS-10,SECC E20/20+SU	
K248	AC61-00107A	SPRING-TENSION LEVER;TS-10,SUS304-WPB,-,	
K250	AC69-00104A	BAND-BRAKE ASS'Y;TS-10,-,-,-,-,-,-	
K330	AC66-30550A	LEVER-S.BRAKE ASSY;-,POM+SUS,-,-,-,X-9	
K340	AC66-30549A	LEVER-T.BRAKE ASSY;-,POM+SUS,-,-,-,X-9	
K350	AC61-00106A	SPRING-BRAKE;TS-10,SUS304-WPB,-,-,-,-,-,	
K470	AC66-00020A	SLIDER-FL DRIVE;TS-10,SECC E20/20,1.0,-,	
K490	AC61-00120A	HOLDER-FL CASS. ASS'Y;TS-10,-,-,-,-,-	
K502	AC61-60561A	SPRING-FL.LEVER-LR;-,ES,SUS304 WPB,PI2.7	
K530	AC66-00034A	LEVER-FL ARM ASS'Y;TS-10,-,-,-,-,-,-,-	
K546	AC61-50658A	GUIDE-CASS. DOOR;X-9,POM,-,NTR,-,-	

3-3 Mechanical Parts (Bottom Side)



Loc. No	Parts No.	Description ; Specification	Remark
B456	AC66-00009A	GEAR-JOINT 1;TS-10,POM,1.5,17.5(22),-,NA	
B458	AC66-00012A	GEAR-JOINT 2;TS-10,POM,1.0,23,-,BLK,24.6	
B460	AC61-00090A	BRACKET-GEAR;TS-10,0.8,-,-	
B462	AC60-10517A	SCREW-TAP TITE;-,PH,+,-,M2.6,L5,ZPC,-,YE	
B464	AC66-00019A	SLIDER-CAM;TS-10,SECC E20/20,1.2,-,-,-,-	
B468	AC66-00017A	LEVER-PINCH DRIVE;TS-10,SECC E20/20,1.0	
B478	AC66-00016A	LEVER-TENSION DRIVE;TS-10,SECC E20/20,1	
B484	AC66-00030A	GEAR-LOADING DR. ASS'Y;TS-10,POM+SWPB,-,	
B488	AC66-00023A	LEVER-S LOADING;TS-10,POM,-,-,-,-,NAT,-	
B489	AC66-00021A	LINK-LOADING S;TS-10,SECC E20/20,0.8,-,-	
B500	AC66-00024A	LEVER-T LOADING;TS-10,POM,-,-,-,-,NAT,-	
B501	AC66-00022A	LINK-LOADING T;TS-10,SECC E20/20,0.8,-,-	
B560	AC31-00010A	MOTOR-CAPSTAN;-,SANKYO,-,-	
B570	AC60-10514A	SCREW-CAPSTAN;-,PH,+,M2.6,L6,-	
G542	AC66-60051A	BELT-PULLEY;-,5CM-70,2 * 2,-,71.3,-,X-9	
K200	AC61-21012A	HOLDER-CLUTCH ASSY;-,-,-,-,-,X-9	
K221	AC66-20581A	GEAR-CENTER ASSY;-,POM,M=0.5,-,HIGHT T.,	
K222	AC60-30306A	WASHER-SLIT;-,-,ID2.1,OD5.0,T0.5,-,POLYS	
K225	AC66-00006A	LEVER-UP DOWN;TS-10,POM,-,-,-,-,NAT,-	

MEMO

4. Electrical Parts List

4-1 VR9180/9160/8160/5160/9180C/9160C/8170C/8160C/5160C Only

Loc.No	Part No	Description ; Specification	Remark
-	-	**ASSY PCB-MAIN**	**S.N.A.**
S.M.P.S. PARTS			
BD1SR1	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
BD1SS1	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
BD1SS2	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
C1SD01	2201-000828	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,15x	⚠
C1SD05	2201-000930	C-CERAMIC,DISC;0.22nF,10%,500V,Y5P,TP,5.	
C1SD06	2301-000423	C-FILM,PEF;3.3nF,5%,100V,TP,7x10x4.5mm,5	
C1SR01	2401-001681	C-AL;82uF,20%,200V,GP,TP,16x26,7.5m	
C1SR02	2401-000905	C-AL;22uF,20%,16V,BP,-,6x11,2.5mm	
C1SR03	2401-001235	C-AL;4.7uF,20%,250V,WT,TP,10x12.5,5	
C1SR04	2301-000417	C-FILM,PEF;24nF,5%,50V,TP,6.5x10.5x4mm,5	
C1SR05	2301-000180	C-FILM,PEF;18nF,0.05,100V,TP,7.2x4.5x8.0	
C1SR07	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	⚠
C1SS01	2401-003137	C-AL;330UF,20%,50V,WT,TP,10X16MM,5	
C1SS03	2201-000812	C-CERAMIC,DISC;2.2nF,20%,400V,Y5U,BK,12.	
C1SS04	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	
C1SS06	2401-000385	C-AL;10uF,20%,100V,GP,TP,6.3x11,5	
C1SS07	2401-002162	C-AL;1000uF,20%,25V,WT,TP,10x20,5mm	
C1SS08	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS10	2401-001479	C-AL;470uF,20%,10V,GP,TP,-,-	
C1SS11	2301-000129	C-FILM,PEF;100nF,5%,50V,TP,10X9X4.3X5,5m	
C1SS35	2401-003059	C-AL;1000UF,20%,16V,WT,TP,10X16,5	
CN1SS1	3711-000178	CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA	
D1SD01	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SD02	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SR01	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SR02	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SS01	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	
D1SS02	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	
D1SS03	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	
D1SS04	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	
D1SS05	0402-000012	DIODE-RECTIFIER;UF4007,1KV,1A,DO-41,TP	
D1SS06	0402-001194	DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP	
D1SS07	0402-000431	DIODE-RECTIFIER;FML-M02S,200V,2.5A,TO-22	HIFI ONLY
D1SS08	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
F1SD01	3601-001122	FUSE-CARTRIDGE;250V,1.6A,FAST-ACTING,GLA	⚠
IC1SS1	0604-001028	PHOTO-COUPLER;TR,50-600%,250mW,DIP-4,ST	⚠
IC1SS2	AC14-12006D	IC;KA431Z,TO-92,TAPING	
L1SS01	AC29-00003A	FILTER LINE NOISE;-,20mH MIN,-,-,-	⚠
L1SS02	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
L1SS03	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
PT1SD1	AC26-00002B	TRANS SWITCHING;-,-,EE2621,-,UL/CSA/DEMK	⚠
Q1SR01	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
Q1SR02	0502-001123	TR-POWER;KTC4419,NPN,30W,TO-220,ST,10-4	
R1SD01	2001-000490	R-CARBON;200OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1SD02	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1SD03	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1SR01	2002-000320	R-COMPOSITION;1.8Mohm,10%,1/2W,AA,TP,3.5	
R1SR02	2003-002117	R-METAL OXIDE(S);330Kohm,5%,1W,AA,TP,3.3	
R1SR03	2003-000314	R-METAL OXIDE;47ohm,5%,2W,AE,TP,6x16mm	
R1SR04	2003-000314	R-METAL OXIDE;47ohm,5%,2W,AE,TP,6x16mm	
R1SR05	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SR06	2003-000119	R-METAL OXIDE;0.68ohm,5%,2W,AE,TP,6x16mm	
R1SR07	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R1SS01	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS02	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS04	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1SS05	2004-000869	R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm	HIFI ONLY
R1SS06	2004-000459	R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.8x3.2m	
VA1SS1	1405-001026	VARISTOR;470V,600A,9x7mm,TP	⚠
ZD1SR1	0403-000571	DIODE-ZENER;UZP43B,43V,40-46V,1W,DO-41,T	
POWER PARTS			
C1P101	2401-001730	C-AL;10uF,20%,50V,GP,TP,5x11,2.5	
C1P103	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C1P104	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C1P105	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C1P106	2401-002008	C-AL;100uF,20%,16V,GP,TP,6.3x11,2.5	HIFI ONLY
C1P108	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	MONO ONLY
C1P112	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	HIFI ONLY
D1P101	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	MONO ONLY
D1P102	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P106	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P108	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	HIFI ONLY
D1P109	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
L1P101	2701-000002	INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm	
Q1P101	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P102	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P104	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	HIFI ONLY
Q1P107	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P108	0504-000142	TR-DIGITAL;KSR2001,PNP,300MW,4.7K/4.7K,T	
Q1P109	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R1P101	2001-000855	R-CARBON;560OHM,5%,1/4W,AA,TP,2.4X6.4MM	
R1P102	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R1P103	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	HIFI ONLY
R1P104	2001-000325	R-CARBON;120OHM,5%,1/8W,AA,TP,1.8X3.2MM	HIFI ONLY
R1P104	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	MONO ONLY
R1P105	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	MONO ONLY
R1P110	2001-000362	R-CARBON;150OHM,5%,1/8W,AA,TP,1.8X3.2MM	
ZD1P01	0403-000390	DIODE-ZENER;UZP33B,33V,31.4-34.6V,1W,DO-	
ZD1P02	0403-000717	DIODE-ZENER;MTZJ5.1B,5.1V,4.94-5.2V,500m	
ZD1P03	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500	
ZD1P05	0403-001211	DIODE-ZENER;MTZJ12B,11.44-12.03V,500MW,D	
LOGIC PARTS			
C601	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C602	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C603	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C604	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C605	2401-000360	C-AL;100uF,20%,50V,GP,TP,8x11.5,5	
C606	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C607	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C608	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
C609	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C610	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
C612	2203-000361	C-CERAMIC,CHIP;0.15nF,5%,50V,NP0,TP,2012	
C613	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C615	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C616	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C617	2401-002095	C-AL;47uF,20%,25V,GP,TP,6.3x5,5	
C618	2203-000634	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,201	
C619	2203-000683	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,201	
C620	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
C622	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	

Loc.No	Part No	Description ; Specification	Remark
C623	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
C624	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
C625	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C626	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C627	2203-001245	C-CERAMIC,CHIP;0.082nF,5%,50V,NP0,TP,201	
C628	2401-002068	C-AL;33uF,20%,16V,GP,TP,5x11,5	
C629	2203-001579	C-CERAMIC,CHIP;15nF,10%,50V,NP0,TP,2012	
C630	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C631	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C632	2203-001077	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,201	
C633	2203-000716	C-CERAMIC,CHIP;3.3nF,10%,50V,X7R,TP,2012	
C634	2203-001077	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,201	
C635	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C636	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C637	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C638	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C639	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C640	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C643	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C644	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C646	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C647	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C648	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C649	2203-000444	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
C650	2203-000727	C-CERAMIC,CHIP;3.9nF,10%,50V,X7R,TP,2012	
C651	2203-000727	C-CERAMIC,CHIP;3.9nF,10%,50V,X7R,TP,2012	
C652	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C653	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
C655	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C656	2203-000844	C-CERAMIC,CHIP;39nF,10%,50V,X7R,TP,2012,	
CN601	AC39-20817S	LEAD CONNECTOR-ASSY;DP,SMH200-02,YBH200-	
CN604	3711-003749	CONNECTOR-HEADER;BOX,8P,2R,2mm,STRAIGHT,	
CN605	3708-001302	CONNECTOR-FPC/FC/PIC;7P,1.25mm,STRAIGHT,	
D601	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D603	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D604	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D605	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D606	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D607	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
IC601	AC09-00197A	IC MICOM;MN101D02D-CP1,VR8170,100P,5V,1	
IC602	1003-001318	IC-MOTOR DRIVER;LB11880,DIP,30P,417MIL,-	
IC603	1103-001148	IC-EEPROM;24C021,2KBIT,DIP,8P,300MIL,10M	
IC6B1	AC14-12006C	IC;KA7533,DIP,-	
L601	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L602	2701-000002	INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm	
L802	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
LD601	0601-000517	LED-IR;RECTANGULA,4x6.0mm,75mW,6V,950	
PT601	0604-001122	PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4,	
PT602	0604-001122	PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4,	
R601	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R602	2007-000572	R-CHIP;220OHM,5%,1/10W,DA,TP,2012	
R603	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R604	2007-000572	R-CHIP;220OHM,5%,1/10W,DA,TP,2012	
R605	2001-000111	R-CARBON;150OHM,5%,1/4W,AA,TP,2.4X6.4MM	
R606	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R607	2007-000738	R-CHIP;30KOHM,5%,1/10W,DA,TP,2012	
R608	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R609	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R610	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R613	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R614	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R615	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	
R616	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R617	2007-000221	R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012	
R618	2007-001039	R-CHIP;56KOHM,5%,1/10W,DA,TP,2012	
R619	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R620	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R621	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R622	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R623	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R624	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R630	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R631	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R632	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R634	2007-000068	R-CHIP;470KOHM,5%,1/10W,DA,TP,2012	
R635	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R637	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R638	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R639	2007-000518	R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012	
R641	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R642	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R643	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R644	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R645	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R646	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	
R647	2007-000766	R-CHIP;330OHM,5%,1/10W,DA,TP,2012	
R648	2007-000766	R-CHIP;330OHM,5%,1/10W,DA,TP,2012	
R649	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R650	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R651	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R652	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R653	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R656	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R660	2007-000001	R-CHIP;68KOHM,5%,1/10W,DA,TP,2012	
R664	2007-000703	R-CHIP;3.6KOHM,5%,1/10W,DA,TP,2012	
R665	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
R668	2003-000111	R-METAL OXIDE;0.47ohm,5%,1W,AD,TP,4.3x12	
R669	2007-001024	R-CHIP;560KOHM,5%,1/10W,DA,TP,2012	
R690	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R691	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R692	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R6A01	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	F-A/V(AUTO) ONLY
R6F2	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	HIFI ONY
R6F3	2007-001141	R-CHIP;7.5KOHM,5%,1/10W,DA,TP,2012	HIFI ONY
R6F4	2007-001141	R-CHIP;7.5KOHM,5%,1/10W,DA,TP,2012	HIFI ONY
R6JS01	2007-000546	R-CHIP;20KOHM,5%,1/10W,DA,TP,2012	VR9180/9180C ONLY
R6JS02	2007-000546	R-CHIP;20KOHM,5%,1/10W,DA,TP,2012	VR9180/9180C ONLY
R6JS03	2007-000546	R-CHIP;20KOHM,5%,1/10W,DA,TP,2012	VR9180/9180C ONLY
R6JS04	2007-000546	R-CHIP;20KOHM,5%,1/10W,DA,TP,2012	VR9180/9180C ONLY
R6JS07	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	VR9180/9180C ONLY
R6JS08	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP,1.8X3.2M	VR9180/9180C ONLY
R6JS09	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	VR9180/9180C ONLY
R6JS10	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	VR9180/9180C ONLY
S601	0603-001011	PHOTO-TR;NPN,35V,6V,50mA,75mW,BK	
S602	0603-001011	PHOTO-TR;NPN,35V,6V,50mA,75mW,BK	
SW602	AC34-20100B	SWITCH-REC;-,-,X-9,-	
SW603	AC34-20100A	SWITCH-MODE;-,-,X-9,-	
XT601	2801-001384	CRYSTAL-UNIT;14.31818MHz,30ppm,28-AAA,16	
AUDIO/VIDEO PARTS			
C301	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C302	2203-001721	C-CERAMIC,CHIP;360pF,5%,50V,NP0,TP,2012,	
C303	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	SQPB ONLY
C304	2202-000164	C-CERAMIC,MLC-AXIAL;0.18nF,10%,50V,Y5P,T	
C305	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C306	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C307	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C308	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C309	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C310	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	
C311	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	F-A/V ONLY
C312	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	

Loc.No	Part No	Description ; Specification	Remark
C313	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C314	2203-000476	C-CERAMIC,CHIP;1000nF,+80-20%,16V,Y5V,TP	
C315	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C316	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C317	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	
C318	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C319	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C320	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C321	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C322	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C323	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C324	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C325	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C326	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C327	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	
C328	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C329	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C330	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C331	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
C332	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
C333	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
C334	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C335	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C336	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C337	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C338	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C340	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C341	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C342	2401-001169	C-AL;33uF,20%,16V,GP,-,6.3x7,2.5mm	
C343	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C344	2203-001214	C-CERAMIC,CHIP;8.2nF,10%,50V,X7R,TP,2012	
C345	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C346	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C347	2203-000495	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,2012	
C348	2203-001132	C-CERAMIC,CHIP;0.68nF,5%,50V,NP0,TP,2012	
C349	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C350	2301-001014	C-FILM,PEF;6.8nF,5%,50V,TP,7x3x6,5mm	
C351	2203-001214	C-CERAMIC,CHIP;8.2nF,10%,50V,X7R,TP,2012	
C352	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C353	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C354	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C356	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C357	2301-000253	C-FILM,PEF;39NF,5%,100V,TP,7.5X4.5X12.5M	
C358	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C359	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C360	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C364	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C371	2203-001077	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,201	
C372	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C399	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
CN301	3708-000391	CONNECTOR-FPC/FC/PIC;10P,1.25MM,STRAIGHT	HIFI ONLY
CN301	3708-000394	CONNECTOR-FPC/FC/PIC;6P,1.25mm,STRAIGHT,	MONO ONLY
CN302	3710-001648	CONNECTOR-SOCKET;2P,1R,2.5mm,STRAIGHT,SN	
CN303	3708-001165	CONNECTOR-FPC/FC/PIC;6P,1.25mm,STRAIGHT,	
FL301	AC27-80100C	COIL-OSC;7mm,2.4mH,-	
IC301	1204-001755	IC-VIDEO PROCESS;LA71200M,QFP,80P,-,PLAS	
L301	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L302	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L303	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L304	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L305	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L306	2702-000120	INDUCTOR-RADIAL;15mH,5%,6.2x7.4mm	
L307	2701-000002	INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm	
Q302	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q303	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q304	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q305	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
Q306	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q307	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
Q308	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
R301	2007-000409	R-CHIP;15KOHM,5%,1/10W,DA,TP,2012	
R302	2007-001055	R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012	
R303	2007-000267	R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012	
R304	2007-000267	R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012	
R305	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R308	2007-000565	R-CHIP;220KOHM,5%,1/10W,DA,TP,2012	
R309	2001-000004	R-CARBON;200KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R310	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R311	2007-001113	R-CHIP;680KOHM,5%,1/10W,DA,TP,2012	
R312	2007-000221	R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012	
R313	2001-000258	R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R314	2007-000241	R-CHIP;1.5KOHM,5%,1/10W,DA,TP,2012	
R315	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	
R316	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R317	2001-000411	R-CARBON;18KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R318	2001-000411	R-CARBON;18KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R319	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R320	2007-000221	R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012	MONO ONLY
R320	2007-000241	R-CHIP;1.5KOHM,5%,1/10W,DA,TP,2012	HIFI ONLY
R322	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2M	HIFI ONLY
R322	2001-000812	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	MONO ONLY
R326	2007-000221	R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012	
R327	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	
R328	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R329	2007-000757	R-CHIP;330KOHM,5%,1/10W,DA,TP,2012	
R330	2007-000572	R-CHIP;220OHM,5%,1/10W,DA,TP,2012	
R331	2007-000653	R-CHIP;27KOHM,5%,1/10W,DA,TP,2012	
R332	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R333	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R334	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R335	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R336	2007-000267	R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012	
R337	2001-000458	R-CARBON;2.2OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R338	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R339	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R340	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R341	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R342	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R343	2007-001001	R-CHIP;510OHM,5%,1/10W,DA,TP,2012	
R344	2007-001001	R-CHIP;510OHM,5%,1/10W,DA,TP,2012	
R345	2007-001118	R-CHIP;680OHM,5%,1/10W,DA,TP,2012	F-AV ONLY
R346	2007-001118	R-CHIP;680OHM,5%,1/10W,DA,TP,2012	
R347	2007-000941	R-CHIP;47KOHM,5%,1/10W,DA,TP,2012	
XT301	2801-003610	CRYSTAL-UNIT;3.579545MHz,8ppm,28-AAA,S,1	
TM-BLOCK			
C401	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C405	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C406	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C407	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C409	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C410	2202-000807	C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
R401	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R402	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
SW401	3408-001042	SWITCH-SLIDE;DC 12V,100mA,-,OFF-ON,-	
TM401	AC40-00007A	TM-BLOCK;115VD025AP,NTSC-M,115VD025AP,Y	
HI-FI PARTS(HI-FI MODEL ONLY)			
C501	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C502	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C503	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C504	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	

Loc.No	Part No	Description ; Specification	Remark
C505	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C506	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C507	2401-001169	C-AL;33uF,20%,16V,GP,-,6.3x7,2.5mm	
C508	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C509	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C510	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
C511	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C512	2203-000126	C-CERAMIC,CHIP;1.2nF,10%,50V,X7R,TP,2012	
C513	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C514	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C515	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C516	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C517	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C518	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C519	2401-001931	C-AL;220nF,20%,50V,-,TP,4x7mm,5	
C520	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
C521	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C522	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C523	2401-001169	C-AL;33uF,20%,16V,GP,-,6.3x7,2.5mm	
C526	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C527	2401-001931	C-AL;220nF,20%,50V,-,TP,4x7mm,5	
C528	2401-001020	C-AL;3.3UF,20%,50V,GP,TP,4X7,5	
C529	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C530	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C531	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C532	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C533	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C534	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C535	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C536	2401-001919	C-AL;2.2uF,20%,50V,-,TP,4x7mm,5	
C537	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C538	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C540	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C541	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C542	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C543	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
C544	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
D503	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
IC501	1204-001754	IC-SIGNAL PROCESSOR;AN3663FBP,QFP,64P,-,	
L501	2702-000108	INDUCTOR-RADIAL;100uH,5%,6x6.4mm	
L502	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L503	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L504	2701-000126	INDUCTOR-AXIAL;150uH,5%,2.4x3.4mm	
R501	2007-001141	R-CHIP;7.5KOHM,5%,1/10W,DA,TP,2012	
R503	2007-001141	R-CHIP;7.5KOHM,5%,1/10W,DA,TP,2012	
R506	2007-000774	R-CHIP;33KOHM,5%,1/10W,DA,TP,2012	
R507	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R510	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R511	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R512	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R513	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R514	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R515	2007-001055	R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012	
R516	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R517	2007-000804	R-CHIP;36KOHM,5%,1/10W,DA,TP,2012	
R518	2007-001224	R-CHIP;9.1KOHM,5%,1/10W,DA,TP,2012	
R519	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R520	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R521	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R522	2007-000518	R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012	
R525	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R527	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R530	2001-000347	R-CARBON;13KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R531	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
INPUT-OUTPUT PARTS			
C801	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C802	2401-001479	C-AL;470uF,20%,10V,GP,TP,-,-	
C803	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C805	2401-000438	C-AL;10uF,20%,25V,GP,-,5x11,2mm	
C8F1	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	F-A/V ONLY
C8M2	2203-000802	C-CERAMIC,CHIP;33nF,10%,50V,X7R,TP,2012	MONO ONLY
JK801	AC37-20001G	JACK-RCA;DPAE-,6P,HIFI,PI3.3	HIFI ONLY
JK801	AC37-20001H	JACK-RCA;DPAM-,4P,MONO,PI3.3	MONO ONLY
Q801	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
R801	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R802	2001-000025	R-CARBON;75OHM,5%,1/4W,AA,TP,2.4X6.4MM	
R803	2001-001026	R-CARBON;910OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R804	2007-001166	R-CHIP;75OHM,5%,1/10W,DA,TP,2012	
R8F1	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	F-A/V ONLY
R8M1	2007-000941	R-CHIP;47KOHM,5%,1/10W,DA,TP,2012	MONO ONLY
R8M2	2007-001224	R-CHIP;9.1KOHM,5%,1/10W,DA,TP,2012	MONO ONLY
R8M3	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	MONO ONLY
R8MF2	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	F-A/V(MONO) ONLY
FUNCTION/DISPLAY PARTS			
C701	2203-000444	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
C702	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C703	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
CN701	3711-004414	CONNECTOR-HEADER;3WALL,13P,1R,2mm,STRAIG	
CN703	3711-004414	CONNECTOR-HEADER;3WALL,13P,1R,2mm,STRAIG	VR9180/9180C ONLY
CN703	3711-004625	CONNECTOR-HEADER;3WALL,8P,1R,2mm,STRAIGH	VR9180/9180C ONLY
D701	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D702	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D704	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D705	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D706	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D707	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D708	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
DT701	0703-001094	LED DISPLAY;GRN,7,8,50x18.5mm	
Q701	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500mW,TO-92	
Q702	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500mW,TO-92	
Q703	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500mW,TO-92	
Q704	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500mW,TO-92	
Q705	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500mW,TO-92	
Q706	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q707	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q708	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q709	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q710	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q711	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q712	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q713	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q714	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500mW,TO-92	
Q715	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500mW,TO-92	
R701	2007-000493	R-CHIP;2.2KOHM,5%,1/10W,DA,TP,2012	
R702	2007-000493	R-CHIP;2.2KOHM,5%,1/10W,DA,TP,2012	
R703	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R704	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R705	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R706	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R707	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R708	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R709	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R710	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R711	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R712	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R713	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R714	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R715	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R716	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R717	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	

Loc.No	Part No	Description ; Specification	Remark
R718	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R719	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R720	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R721	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R722	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R723	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R724	2007-000493	R-CHIP;2.2KOHM,5%,1/10W,DA,TP,2012	
R741	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R743	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R744	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R745	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	F-A/V ONLY
RM701	AC32-00002A	MODULE-REMOCON;-,GP1U291Q,38KHZ,-,7.3X13	
W7004	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	F-A/V ONLY
CN702	3710-001626	CONNECTOR-SOCKET;8P,1R,2mm,ANGLE,SN	VR8170C/8160 ONLY
JK702	AC37-22002G	JACK-PIN;3.2mm,DPSE-9813,3P,13mm,ARREY	VR8170C/8160 ONLY
JK702	AC37-22002J	JACK-PIN;3.2mm,DPSE-9814,2P,13mm,S/W	VR5160 ONLY
SW701	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW702	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW703	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW704	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW705	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW706	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW707	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW709	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW710	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW711	3404-001076	SWITCH-TACT;12V,50mA,16gf+-50gf,6x6mm,SP	
SW715	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW716	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
-	**-**	**ASSY-FUNCTION;VR9180/XAA,TS-10,SEA,J/S**	**S.N.A.**
CN704	3710-001563	CONNECTOR-SOCKET;13P,1R,2mm,ANGLE,SN	
CN705	3710-001563	CONNECTOR-SOCKET;13P,1R,2mm,ANGLE,SN	
JK701	AC37-00006A	JACK—PIN;3.2MM,DPSE-9872,3P,ARREY,10MM	
JS701	AC64-00602A	DIAL-J/S;J/S DIAL,MOLD,8PIN,BLACK,DJS-1	
SW721	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW722	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW723	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW724	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW725	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW726	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW727	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW728	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW729	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW730	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW731	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW735	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW736	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW737	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	

Loc.No	Part No	Description ; Specification	Remark

4-2 VR8140C/5140C Only

Loc.No	Part No	Description ; Specification	Remark
-	-	**ASSY PCB-MAIN**	**S.N.A.**
S.M.P.S. PARTS			
BD1SS1	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
BD1SS2	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
BD1SS3	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
C1SD01	2201-000828	C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,15x	⚠
C1SD05	2201-000930	C-CERAMIC,DISC;0.22nF,10%,500V,Y5P,TP,5.	
C1SD06	2301-000423	C-FILM,PEF;3.3nF,5%,100V,TP,7x10x4.5mm,5	
C1SR01	2401-001681	C-AL;82uF,20%,200V,GP,TP,16x26,7.5m	
C1SR02	2401-000905	C-AL;22uF,20%,16V,BP,-,6x11,2.5mm	
C1SR03	2401-001235	C-AL;4.7uF,20%,250V,WT,TP,10x12.5,5	
C1SR04	2301-000417	C-FILM,PEF;24nF,5%,50V,TP,6.5x10.5x4mm,5	
C1SR05	2301-000180	C-FILM,PEF;18nF,0.05,100V,TP,7.2x4.5x8.0	
C1SR07	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	⚠
C1SS01	2401-003137	C-AL;330UF,20%,50V,WT,TP,10X16MM,5	
C1SS03	2201-000812	C-CERAMIC,DISC;2.2nF,20%,400V,Y5U,BK,12.	
C1SS04	2201-000916	C-CERAMIC,DISC;100pF,10%,400V,Y5U,TP,10x	
C1SS06	2401-000385	C-AL;10uF,20%,100V,GP,TP,6.3x11,5	
C1SS07	2401-002162	C-AL;1000uF,20%,25V,WT,TP,10x20,5mm	
C1SS08	2401-001126	C-AL;330uF,20%,25V,WT,TP,10x12.5,5	
C1SS10	2401-001479	C-AL;470uF,20%,10V,GP,TP,-,-	
C1SS11	2301-000129	C-FILM,PEF;100nF,5%,50V,TP,10X9X4.3X5,5m	
C1SS35	2401-003059	C-AL;1000UF,20%,16V,WT,TP,10X16,5	
CN1SS1	3711-000178	CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA	
D1SD01	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
D1SR01	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SR02	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1SS01	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	
D1SS02	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	
D1SS03	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	
D1SS04	0402-001196	DIODE-RECTIFIER;1T5,600V,1A,TS-1,TP	
D1SS05	0402-000012	DIODE-RECTIFIER;UF4007,1KV,1A,DO-41,TP	
D1SS06	0402-001194	DIODE-RECTIFIER;UG2D,200V,2A,DO-204AC,TP	
D1SS07	0402-000431	DIODE-RECTIFIER;FML-M02S,200V,2.5A,TO-22	
D1SS08	0402-001195	DIODE-RECTIFIER;F1T4,400V,1.0A,TS-1,TP	
F1SD01	3601-001122	FUSE-CARTRIDGE;250V,1.6A,FAST-ACTING,GLA	⚠
IC1SS1	0604-001028	PHOTO-COUPLER;TR,50-600%,250mW,DIP-4,ST	⚠
IC1SS2	AC14-12006D	IC;KA431Z,TO-92,TAPING	
L1SS01	AC29-00003A	FILTER LINE NOISE;-,20mH MIN,-,-,-	⚠
L1SS02	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
L1SS03	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
PT1SD1	AC26-00002B	TRANS SWITCHING;-,-,EE2621,-,UL/CSA/DEMK	⚠
Q1SR01	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
Q1SR02	0502-001123	TR-POWER;KTC4419,NPN,30W,TO-220,ST,10-4	
R1SD01	2001-000490	R-CARBON;200OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1SD02	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1SD03	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1SD04	2003-000314	R-METAL OXIDE;47ohm,5%,2W,AE,TP,6x16mm	
R1SR01	2002-000320	R-COMPOSITION;1.8Mohm,10%,1/2W,AA,TP,3.5	
R1SR02	2003-002117	R-METAL OXIDE(S);330Kohm,5%,1W,AA,TP,3.3	
R1SR03	2003-000314	R-METAL OXIDE;47ohm,5%,2W,AE,TP,6x16mm	
R1SR05	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1SR06	2003-000119	R-METAL OXIDE;0.68ohm,5%,2W,AE,TP,6x16mm	
R1SR07	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R1SS01	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS02	2003-000994	R-METAL OXIDE(S);33Kohm,5%,2W,AF,TP,3.9x	
R1SS04	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1SS05	2004-000869	R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm	
R1SS06	2004-000459	R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.8x3.2m	
VA1SS1	1405-001026	VARISTOR;470V,600A,9x7mm,TP	⚠

Loc.No	Part No	Description ; Specification	Remark
POWER PARTS			
C1P101	2401-001730	C-AL;10uF,20%,50V,GP,TP,5x11,2.5	
C1P103	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C1P104	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C1P105	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C1P106	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C1P108	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C1P109	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C1P112	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
D1P101	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P102	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D1P106	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P108	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D1P109	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
L1P101	2701-000002	INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm	
Q1P101	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P102	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P104	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q1P107	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P108	0504-000142	TR-DIGITAL;KSR2001,PNP,300MW,4.7K/4.7K,T	
Q1P109	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R1P101	2001-000855	R-CARBON;560OHM,5%,1/4W,AA,TP,2.4X6.4MM	
R1P102	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R1P103	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1P104	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1P110	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R1P111	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R1P112	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
ZD1P01	0403-000390	DIODE-ZENER;UZP33B,33V,31.4-34.6V,1W,DO-	
ZD1P02	0403-000717	DIODE-ZENER;MTZJ5.1B,5.1V,4.94-5.2V,500m	
ZD1P03	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500	
ZD1P05	0403-001211	DIODE-ZENER;MTZJ12B,11.44-12.03V,500MW,D	
ZD1SR1	0403-000571	DIODE-ZENER;UZP43B,43V,40-46V,1W,DO-41,T	
LOGIC PARTS			
C601	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C602	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C603	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C604	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C605	2401-000360	C-AL;100uF,20%,50V,GP,TP,8x11.5,5	
C606	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C607	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C608	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
C609	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C610	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
C612	2203-000361	C-CERAMIC,CHIP;0.15nF,5%,50V,NP0,TP,2012	
C613	2401-001545	C-AL;47uF,20%,25V,GP,TP,6.3x7mm,2.5	
C615	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C616	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C617	2401-002095	C-AL;47uF,20%,25V,GP,TP,6.3x5,5	
C618	2203-000634	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,201	
C619	2203-000683	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,201	
C620	2203-000683	C-CERAMIC,CHIP;0.027nF,5%,50V,NP0,TP,201	
C621	2203-000634	C-CERAMIC,CHIP;0.022nF,5%,50V,NP0,TP,201	
C622	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C623	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP	
C624	2401-002165	C-AL;100uF,20%,16V,GP,TP,6.3x7,5	
C625	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C626	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C627	2203-001245	C-CERAMIC,CHIP;0.082nF,5%,50V,NP0,TP,201	
C628	2401-002068	C-AL;33uF,20%,16V,GP,TP,5x11,5	
C629	2203-001579	C-CERAMIC,CHIP;15nF,10%,50V,NP0,TP,2012	

Loc.No	Part No	Description ; Specification	Remark
C630	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C631	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C632	2203-001077	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,201	
C633	2203-000716	C-CERAMIC,CHIP;3.3nF,10%,50V,X7R,TP,2012	
C634	2203-001077	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,201	
C635	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C636	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C637	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C638	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C639	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C640	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C643	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C644	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C646	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C647	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C648	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C649	2203-000444	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
C650	2203-000727	C-CERAMIC,CHIP;3.9nF,10%,50V,X7R,TP,2012	
C651	2203-000727	C-CERAMIC,CHIP;3.9nF,10%,50V,X7R,TP,2012	
C652	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C653	2203-000575	C-CERAMIC,CHIP;220NF,10%,25V,X7R,TP,2012	
C655	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C656	2203-000844	C-CERAMIC,CHIP;39nF,10%,50V,X7R,TP,2012,	
C6B01	2401-000199	C-AL;1000uF,20%,6.3V,GP,TP,10x12.5,	
CN601	AC39-20817S	LEAD CONNECTOR-ASSY;DP,SMH200-02,YBH200-	
CN604	3711-003749	CONNECTOR-HEADER;BOX,8P,2R,2mm,STRAIGHT,	
CN605	3708-001302	CONNECTOR-FPC/FC/PIC;7P,1.25mm,STRAIGHT,	
D601	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D603	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D604	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D605	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D606	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
D607	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TP	
IC601	AC09-00197A	IC MICOM;MN101D02D-CP1,VR8170,100P,5V,1	
IC602	1003-001318	IC-MOTOR DRIVER;LB11880,DIP,30P,417MIL,-	
IC603	1103-001148	IC-EEPROM;24C021,2KBIT,DIP,8P,300MIL,10M	
IC6B1	AC14-12006C	IC;KA7533,DIP,-	
L601	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L602	2701-000002	INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm	
LD601	0601-000517	LED-IR;RECTANGULA,4x6.0mm,75mW,6V,950	
PT601	0604-001122	PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4,	
PT602	0604-001122	PHOTO-INTERRUPTER;TR,0.065%,150mW,DIP-4,	
R601	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R602	2007-000572	R-CHIP;220OHM,5%,1/10W,DA,TP,2012	
R603	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R604	2007-000572	R-CHIP;220OHM,5%,1/10W,DA,TP,2012	
R605	2001-000111	R-CARBON;150OHM,5%,1/4W,AA,TP,2.4X6.4MM	
R606	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R607	2007-000738	R-CHIP;30KOHM,5%,1/10W,DA,TP,2012	
R608	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R609	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R610	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R613	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R614	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R615	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	
R616	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R617	2007-000221	R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012	
R618	2007-001039	R-CHIP;56KOHM,5%,1/10W,DA,TP,2012	
R619	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R620	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R621	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R622	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R623	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R624	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R630	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R631	2001-000864	R-CARBON;56KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R632	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R633	2007-000565	R-CHIP;220KOHM,5%,1/10W,DA,TP,2012	
R634	2007-000068	R-CHIP;470KOHM,5%,1/10W,DA,TP,2012	
R635	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R637	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R638	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R639	2007-000518	R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012	
R641	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R642	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R643	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R644	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R645	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R646	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	
R647	2007-000766	R-CHIP;330OHM,5%,1/10W,DA,TP,2012	
R648	2007-000766	R-CHIP;330OHM,5%,1/10W,DA,TP,2012	
R649	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R650	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R651	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R652	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R653	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R656	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R660	2007-000001	R-CHIP;68KOHM,5%,1/10W,DA,TP,2012	
R664	2007-000703	R-CHIP;3.6KOHM,5%,1/10W,DA,TP,2012	
R665	2007-000282	R-CHIP;100KOHM,5%,1/10W,DA,TP,2012	
R668	2003-000111	R-METAL OXIDE;0.47ohm,5%,1W,AD,TP,4.3x12	
R669	2007-001024	R-CHIP;560KOHM,5%,1/10W,DA,TP,2012	
R690	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R691	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R692	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R6B01	2001-000458	R-CARBON;2.2OHM,5%,1/8W,AA,TP,1.8X3.2MM	
S601	0603-001011	PHOTO-TR;NPN,35V,6V,50mA,75mW,BK	
S602	0603-001011	PHOTO-TR;NPN,35V,6V,50mA,75mW,BK	
SW602	AC34-20100B	SWITCH-REC;-,-,X-9,-	
SW603	AC34-20100A	SWITCH-MODE;-,-,X-9,-	
XT601	2801-001384	CRYSTAL-UNIT;14.31818MHz,30ppm,28-AAA,16	
XT602	2801-003318	CRYSTAL-UNIT;32.768KHz,20ppm,28-AAP,12.5	
AUDIO/VIDEO PARTS			
C301	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C302	2203-001721	C-CERAMIC,CHIP;360pF,5%,50V,NPO,TP,2012,	
C303	2007-000029	R-CHIP;0OHM,5%,1/10W,DA,TP,2012	
C304	2202-000164	C-CERAMIC,MLC-AXIAL;0.18nF,10%,50V,Y5P,T	
C305	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C306	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C307	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C308	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C309	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C310	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C312	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C313	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C314	2203-000476	C-CERAMIC,CHIP;1000nF,+80-20%,16V,Y5V,TP	
C315	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C316	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C317	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C318	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C319	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C320	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C321	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C322	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C323	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C324	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C325	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C326	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
C327	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,5	
C328	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C329	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	

Loc.No	Part No	Description ; Specification	Remark
C330	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C331	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
C332	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
C333	2203-000989	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012	
C334	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C335	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C336	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C337	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C338	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C340	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C341	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C342	2401-001169	C-AL;33uF,20%,16V,GP,-,6.3x7,2.5mm	
C343	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C344	2203-001214	C-CERAMIC,CHIP;8.2nF,10%,50V,X7R,TP,2012	
C345	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C346	2401-000438	C-AL;10uF,20%,25V,GP,-,5x11,2mm	
C347	2203-000495	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,2012	
C348	2203-001132	C-CERAMIC,CHIP;0.68nF,5%,50V,NP0,TP,2012	
C349	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C350	2301-001014	C-FILM,PEF;6.8nF,5%,50V,TP,7x3x6,5mm	
C351	2203-001214	C-CERAMIC,CHIP;8.2nF,10%,50V,X7R,TP,2012	
C352	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C353	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C354	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C356	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C357	2301-000253	C-FILM,PEF;39NF,5%,100V,TP,7.5X4.5X12.5M	
C358	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C359	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C360	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C364	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C371	2203-001077	C-CERAMIC,CHIP;0.056nF,5%,50V,NP0,TP,201	
C372	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C399	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
CN301	3708-000391	CONNECTOR-FPC/FC/PIC;10P,1.25MM,STRAIGHT	VR8140C ONLY
CN301	3708-000394	CONNECTOR-FPC/FC/PIC;6P,1.25mm,STRAIGHT,	VR5140C ONLY
CN302	3710-001648	CONNECTOR-SOCKET;2P,1R,2.5mm,STRAIGHT,SN	
CN303	3708-001165	CONNECTOR-FPC/FC/PIC;6P,1.25mm,STRAIGHT,	
FL301	AC27-80100C	COIL-OSC;7mm,2.4mH,-	
IC301	1204-001755	IC-VIDEO PROCESS;LA71200M,QFP,80P,-,PLAS	
L301	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L302	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L303	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L304	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L305	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L306	2702-000120	INDUCTOR-RADIAL;15mH,5%,6.2x7.4mm	
L307	2701-000002	INDUCTOR-AXIAL;100uH,10%,4.2x9.8mm	
Q302	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q303	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q304	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q305	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
Q306	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q307	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
Q308	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW,T0-9	
R301	2007-000409	R-CHIP;15KOHM,5%,1/10W,DA,TP,2012	
R302	2007-001055	R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012	
R303	2007-000267	R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012	
R304	2007-000267	R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012	
R305	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R308	2007-000565	R-CHIP;220KOHM,5%,1/10W,DA,TP,2012	
R309	2001-000004	R-CARBON;200KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R310	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R311	2007-001113	R-CHIP;680KOHM,5%,1/10W,DA,TP,2012	
R312	2007-000221	R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012	
R313	2001-000258	R-CARBON;1.8KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R314	2007-000241	R-CHIP;1.5KOHM,5%,1/10W,DA,TP,2012	
R315	2007-001177	R-CHIP;8.2KOHM,5%,1/10W,DA,TP,2012	
R316	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R317	2001-000411	R-CARBON;18KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R318	2001-000411	R-CARBON;18KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R319	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R320	2007-000221	R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012	VR5140C ONLY
R320	2007-000241	R-CHIP;1.5KOHM,5%,1/10W,DA,TP,2012	VR8140C ONLY
R322	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP,1.8X3.2M	VR8410C ONLY
R322	2001-000812	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	VR5140C ONLY
R326	2007-000221	R-CHIP;1.2KOHM,5%,1/10W,DA,TP,2012	
R327	2007-000981	R-CHIP;5.6KOHM,5%,1/10W,DA,TP,2012	
R328	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R329	2007-000757	R-CHIP;330KOHM,5%,1/10W,DA,TP,2012	
R330	2007-000572	R-CHIP;220OHM,5%,1/10W,DA,TP,2012	
R331	2007-000653	R-CHIP;27KOHM,5%,1/10W,DA,TP,2012	
R332	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R333	2001-000221	R-CARBON;1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R334	2007-000586	R-CHIP;22KOHM,5%,1/10W,DA,TP,2012	
R335	2007-000931	R-CHIP;470OHM,5%,1/10W,DA,TP,2012	
R336	2007-000267	R-CHIP;1.8KOHM,5%,1/10W,DA,TP,2012	
R337	2001-000458	R-CARBON;2.2OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R338	2001-000405	R-CARBON;180OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R339	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R340	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R341	2001-000522	R-CARBON;22KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R342	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R343	2007-001001	R-CHIP;510OHM,5%,1/10W,DA,TP,2012	
R344	2007-001001	R-CHIP;510OHM,5%,1/10W,DA,TP,2012	
R346	2007-001118	R-CHIP;680OHM,5%,1/10W,DA,TP,2012	
R347	2007-000941	R-CHIP;47KOHM,5%,1/10W,DA,TP,2012	
XT301	2801-003610	CRYSTAL-UNIT;3.579545MHz,8ppm,28-AAA,S,1	
TM-BLOCK			
C401	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C405	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C406	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012	
C407	2202-000807	C-CERAMIC,MLC-AXIAL;22nF,+80-20%,25V,Y5V	
C409	2202-002037	C-CERAMIC,MLC-AXIAL;100nF,80-20%,50V,Y5V	
C410	2203-000609	C-CERAMIC,CHIP;22nF,10%,50V,X7R,TP,2012	
R401	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R402	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
SW401	3408-001042	SWITCH-SLIDE;DC 12V,100mA,-,OFF-ON,-	
TM401	AC40-00007A	TM-BLOCK;115VD025AP,NTSC-M,115VD025AP,Y	
HI-FI PARTS(HI-FI MODEL ONLY)			
C501	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C502	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C503	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C504	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C505	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C506	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C507	2401-001169	C-AL;33uF,20%,16V,GP,-,6.3x7,2.5mm	
C508	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C509	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C510	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
C511	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C512	2203-000126	C-CERAMIC,CHIP;1.2nF,10%,50V,X7R,TP,2012	
C513	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C514	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C515	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C516	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C517	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C518	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C519	2401-001931	C-AL;220nF,20%,50V,-,TP,4x7mm,5	
C520	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
C521	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C522	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	

Loc.No	Part No	Description ; Specification	Remark
C523	2401-001169	C-AL;33uF,20%,16V,GP,-,6.3x7,2.5mm	
C526	2401-001254	C-AL;4.7uF,20%,35V,GP,TP,4x7,5	
C527	2401-001931	C-AL;220nF,20%,50V,-,TP,4x7mm,5	
C528	2401-001020	C-AL;3.3UF,20%,50V,GP,TP,4X7,5	
C529	2401-000598	C-AL;1uF,20%,50V,GP,TP,4x7,5	
C530	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C531	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C532	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C533	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C534	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C535	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C536	2401-001919	C-AL;2.2uF,20%,50V,-,TP,4x7mm,5	
C537	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C538	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C540	2401-003107	C-AL;47uF,20%,16V,GP,TP,5x7,5	
C541	2203-000192	C-CERAMIC,CHIP;100nF,+80-20%,50V,Y5V,TP,	
C542	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
C543	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm,5	
C544	2401-000414	C-AL;10uF,20%,16V,GP,TP,4x7,5	
D503	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
IC501	1204-001754	IC-SIGNAL PROCESSOR;AN3663FBP,QFP,64P,-,	
L501	2702-000108	INDUCTOR-RADIAL;100uH,5%,6x6.4mm	
L502	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L503	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
L504	2701-000126	INDUCTOR-AXIAL;150uH,5%,2.4x3.4mm	
R501	2007-001141	R-CHIP;7.5KOHM,5%,1/10W,DA,TP,2012	
R503	2007-001141	R-CHIP;7.5KOHM,5%,1/10W,DA,TP,2012	
R506	2007-000774	R-CHIP;33KOHM,5%,1/10W,DA,TP,2012	
R507	2007-000468	R-CHIP;1KOHM,5%,1/10W,DA,TP,2012	
R510	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R511	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R512	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R513	2007-000872	R-CHIP;4.7KOHM,5%,1/10W,DA,TP,2012	
R514	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R515	2007-001055	R-CHIP;6.2KOHM,5%,1/10W,DA,TP,2012	
R516	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R517	2007-000804	R-CHIP;36KOHM,5%,1/10W,DA,TP,2012	
R518	2007-001224	R-CHIP;9.1KOHM,5%,1/10W,DA,TP,2012	
R519	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R520	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R521	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R522	2007-000518	R-CHIP;2.7KOHM,5%,1/10W,DA,TP,2012	
R525	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R527	2007-000300	R-CHIP;10KOHM,5%,1/10W,DA,TP,2012	
R530	2001-000347	R-CARBON;13KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R531	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
INPUT-OUTPUT PARTS			
C801	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C802	2401-001479	C-AL;470uF,20%,10V,GP,TP,-,-	
C803	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
C805	2401-000438	C-AL;10uF,20%,25V,GP,-,5x11,2mm	
C8L1	2401-001730	C-AL;10uF,20%,50V,GP,TP,5x11,2.5	
C8L2	2401-001730	C-AL;10uF,20%,50V,GP,TP,5x11,2.5	
C8M2	2203-000802	C-CERAMIC,CHIP;33nF,10%,50V,X7R,TP,2012	VR5140C ONLY
JK801	AC37-20001G	JACK-RCA;DPAE-,6P,HIFI,PI3.3	VR8140C ONLY
JK801	AC37-20001H	JACK-RCA;DPAM-,4P,MONO,PI3.3	VR5140C ONLY
L802	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
Q801	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q8L1	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R801	2001-000969	R-CARBON;75OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R802	2001-000025	R-CARBON;75OHM,5%,1/4W,AA,TP,2.4X6.4MM	
R803	2007-001239	R-CHIP;910OHM,5%,1/10W,DA,TP,2012	
R804	2007-001166	R-CHIP;75OHM,5%,1/10W,DA,TP,2012	
R8L1	2001-000356	R-CARBON;150KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R8L2	2001-000356	R-CARBON;150KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R8L3	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R8L4	2001-000780	R-CARBON;470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R8L5	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R8M1	2007-000941	R-CHIP;47KOHM,5%,1/10W,DA,TP,2012	VR5140C ONLY
R8M2	2007-001224	R-CHIP;9.1KOHM,5%,1/10W,DA,TP,2012	VR5140C ONLY
R8M3	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM	VR5140C ONLY
W087	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
FUNCTION PARTS			
D701	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D702	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D703	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D704	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D705	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D706	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D707	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
D708	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,	
Q705	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500mW,TO-92	
Q707	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q708	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q709	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R707	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R709	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R712	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R714	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R716	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R718	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R720	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R722	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R744	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M	
SW702	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW703	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW704	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW705	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW706	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
SW707	3404-000165	SWITCH-TACT;12V,50mA,160gf,6x6mm,SPST	
DISPLAY (LED-LAMP)			
C7L01	2401-002008	C-AL;100uF,20%,16V,GP,TP,6.3x11,2.5	
C7L02	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5S,TP,	
C7L03	2202-000173	C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,1	
CN7L01	3711-004012	CONNECTOR-HEADER;NOWALL,16P,1R,2.5MM,ANG	
LD7L01	0601-001203	LED;ROUND,RED,3.3mm,700nm	
LD7L02	0601-001408	LED;ROUND,GRN,-,-	
LD7L03	0601-001408	LED;ROUND,GRN,-,-	
LD7L04	0601-001408	LED;ROUND,GRN,-,-	
LD7L05	0601-001408	LED;ROUND,GRN,-,-	
LD7L06	0601-001408	LED;ROUND,GRN,-,-	
LD7L07	0601-001203	LED;ROUND,RED,3.3mm,700nm	
R7L01	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R7L08	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R7L09	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R7L10	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R7L11	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R7L12	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R7L13	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R7L14	2001-000515	R-CARBON;220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
RM7L1	AC59-00011A	MODULE-REMOCON;-,TSOP2838RF1,-,-,-,-,BK	

MEMO

5. Schematic Diagrams

◆ Block Identification of Main PCB - 5-2

5-1 S.M.P.S./Power - 5-3

5-2 Logic - 5-4

5-3 Audio/Video - 5-6

5-4 Hi-Fi (Option) - 5-8

5-5 TM-Block/Input-Output- 5-10

5-6 Display (LED-Module ; VR9180/9160/8160/5160/9180C/9160C/8170C/8160C/5160C) - - - - - 5-11

5-7 Display (LED-Lamp ; VR8140C/5140C) - 5-12

Note

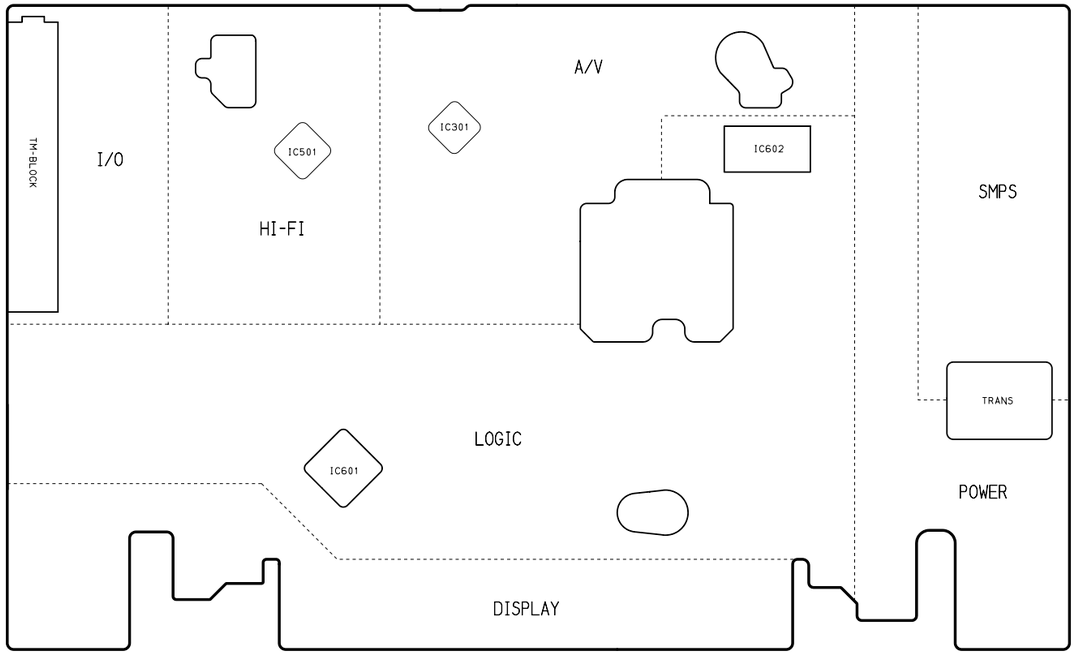
For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.

Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

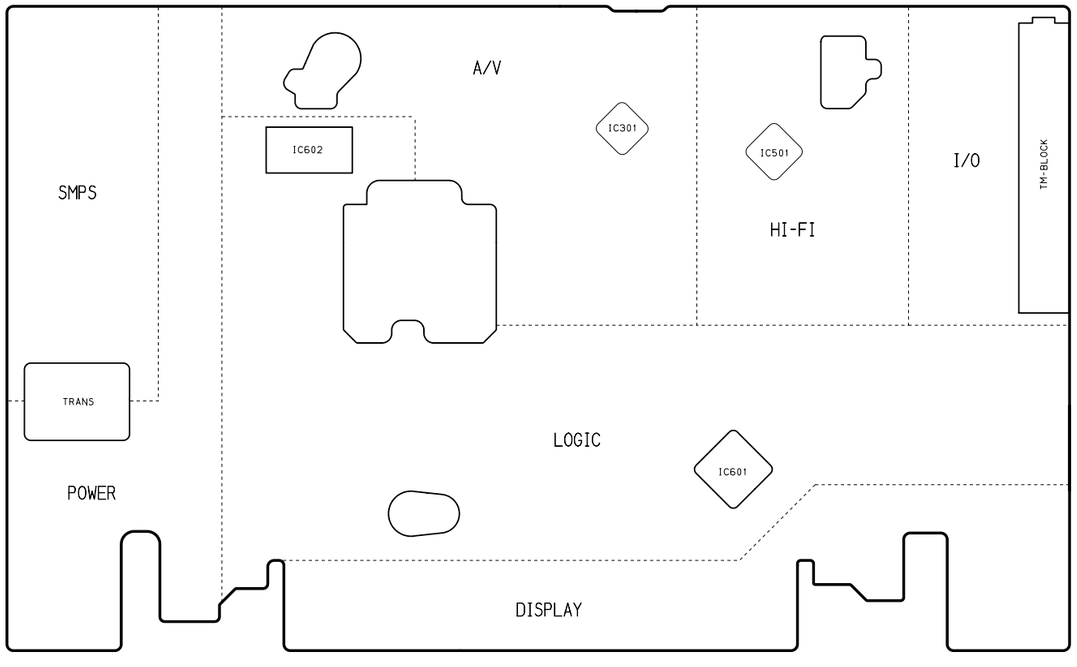
Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components.
Use only the same type.

◆ Block Identification of Main PCB

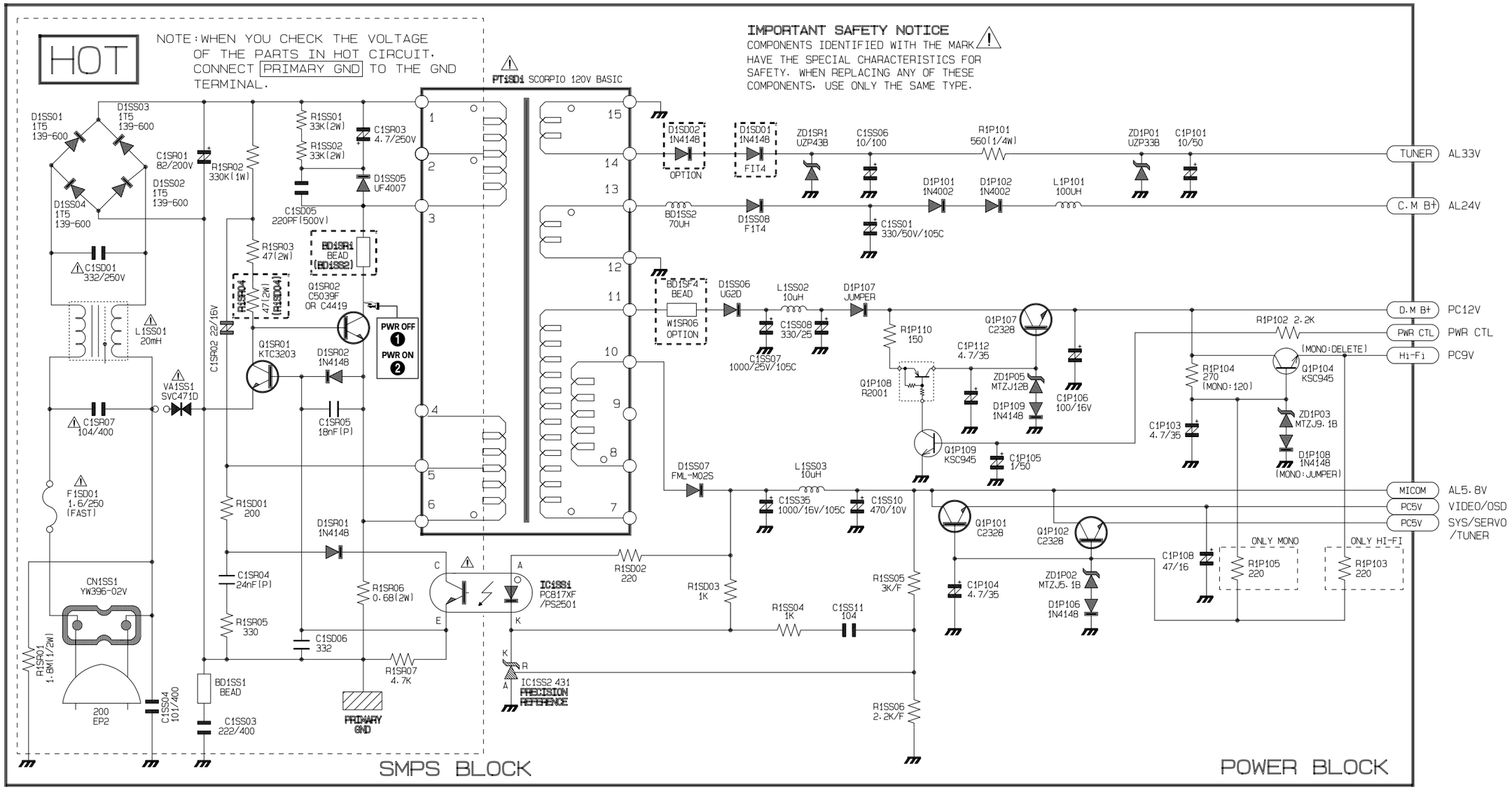


Component Side

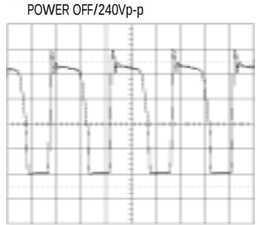


Conductor Side

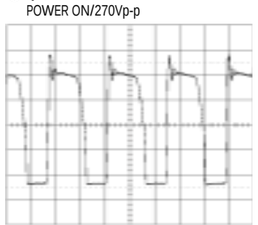
5-1 S.M.P.S./Power



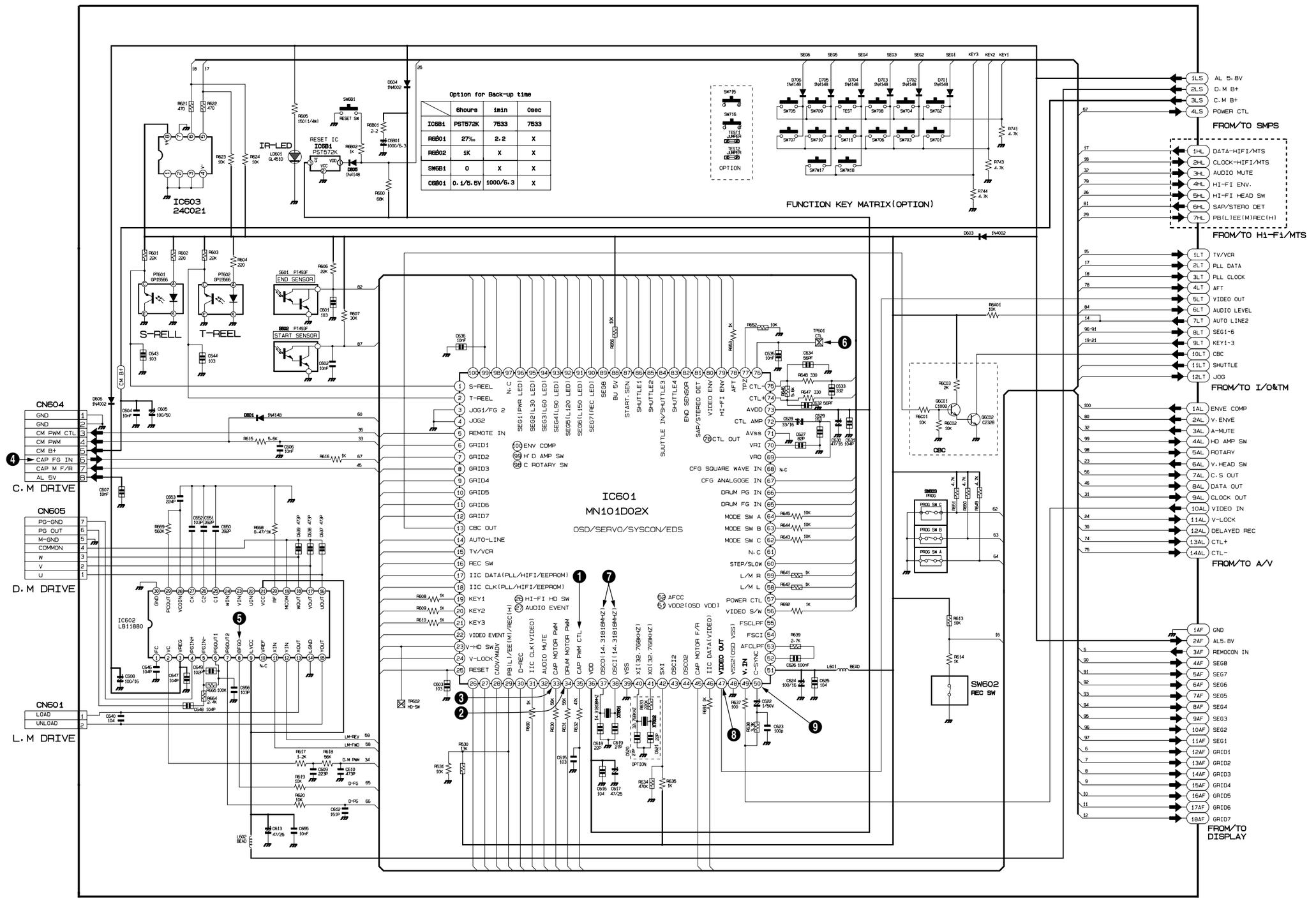
❶ Q1SR02-COLLECTOR
POWER OFF/240Vp-p



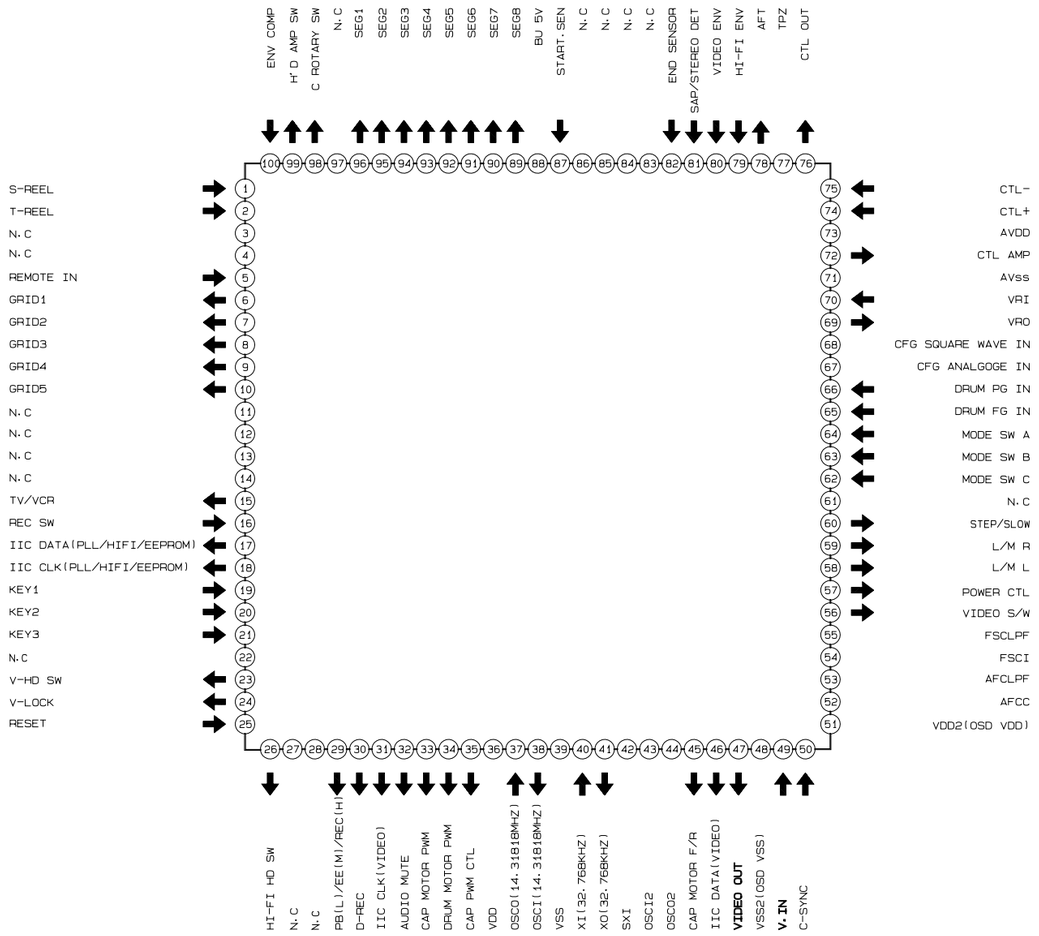
❷ Q1SR02-COLLECTOR
POWER ON/270Vp-p



5-2 Logic


Option for Back-up time
IC603
24C021
IR-LED
RESET IC
IC6B1
PST572K
FUNCTION KEY MATRIX(OPTION)
OPTION
S-REEL
T-REEL
IC601
MN101D02X
OSD/SERVO/SYSCON/EDS
IC602
LB11880
CN604
C.M DRIVE
CN605
D.M DRIVE
CN601
L.M DRIVE
FROM/TO SMPS
FROM/TO Hi-Fi/MTS
FROM/TO I/O&TM
FROM/TO A/V
FROM/TO DISPLAY
SW602
REC SW
CBC

IC601 MN101D02X



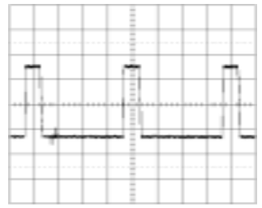
IC601 VOLTAGE TABLE

MODE / PIN	PLAY	STOP	REC
IC601	IC-MICOM		
1	5.1	5.1	5.1
2	0	0	0
3	0.7	0.7	0
4	0.7	0.7	0
5	5.3	5.3	5.3
6	4.2	4.2	4.2
7	4.2	4.2	4.2
8	4.2	4.2	4.2
9	4.2	4.2	4.2
10	4.2	4.2	4.2
11	5.2	5.2	5.2
12	5.2	5.2	5.2
13	0	0	0
14	0	0	0
15	5.1	5.1	5.1
16	5.1	5.1	5.1
17	4.9	4.9	4.9
18	4.9	4.9	4.9
19	0	0	0
20	0	0	0
21	0	0	0
22	0	0	0
23	2.5	2.5	2.5
24	0	0	0
25	5.2	5.2	5.2
26	2.6	2.6	2.6
27	0	0	0
28	0	0	0
29	0	2.2	4.8
30	0	5.2	5.2
31	4.0	4.5	4.5
32	0	5.1	5.1
33	2.7	5.2	2.7
34	2.6	0	2.6
35	3.6	0	3.5
36	5.2	5.2	5.2
37	2.6	2.6	2.6
38	2.6	2.6	2.6
39	0	0	0
40	2.3	2.3	2.2
41	2.6	2.6	2.6
42	5.2	5.2	5.2
43	0	0	0.7
44	0	0	0.7
45	0	0	0
46	4.5	0	0
47	4.4	1.7	1.7
48	0	0	0
49	4.4	0.8	0.8
50	2.5	2.0	2.0

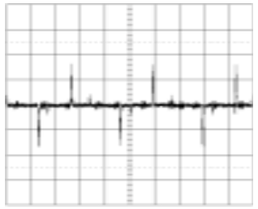
MODE / PIN	PLAY	STOP	REC
IC601	IC-MICOM		
51	5.1	5.2	5.2
52	2.5	2.8	2.8
53	2.6	2.6	2.6
54	0	0.6	0.8
55	0.5	0.6	0.8
56	0.9	0.9	0.9
57	4.7	4.7	4.7
58	5.1	5.1	5.1
59	5.1	5.1	5.1
60	0	0	0
61	0	0	0
62	0	0	0
63	5.2	5.2	5.2
64	0	0	0
65	2.5	0	2.5
66	0.5	0	0.5
67	2.4	0	2.4
68	0.7	0.8	0.6
69	2.5	2.5	2.5
70	2.5	2.5	2.5
71	0	0	0
72	2.5	2.5	2.5
73	5.2	5.2	5.2
74	2.5	2.5	3.0
75	2.5	2.5	2.5
76	2.5	2.5	2.5
77	0	0	0
78	2.8	2.8	2.8
79	3.1	4.4	4.3
80	3.7	0	0
81	0	0	0
82	5.1	5.1	5.1
83	0	0	0
84	0	0	0
85	0	0.7	0.7
86	0	0.7	0.7
87	5.1	5.1	5.1
88	5.1	5.1	5.1
89	1.0	1.0	2.0
90	3.0	4.0	2.0
91	4.0	0	3.0
92	3.0	1.0	3.0
93	3.0	1.0	3.0
94	3.0	1.0	3.0
95	3.0	1.0	1.0
96	3.0	1.0	4.0
97	0	0	0
98	2.6	2.6	2.6
99	0	0	0
100	0.7	0.6	0.6

WAVEFORM

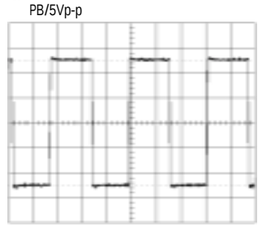
❶ IC601-35
PB/3Vp-p



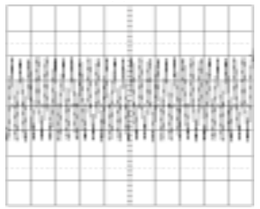
❻ TP601
PB/3.2Vp-p



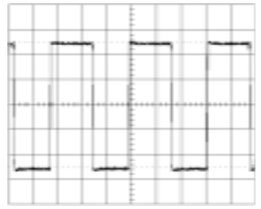
❷ IC601-34
PB/5Vp-p



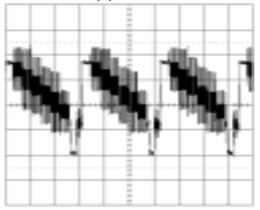
❼ IC601-37,38
PB,REC/620mVp-p



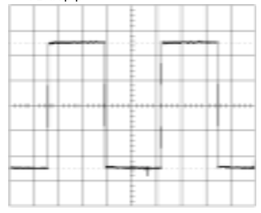
❸ IC601-33
PB/5Vp-p



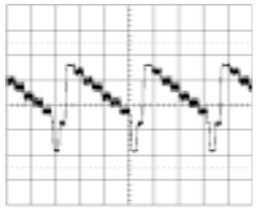
❽ IC601-47
PB,REC/2.2Vp-p



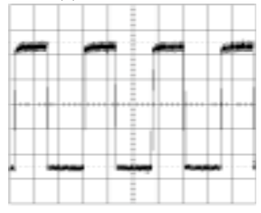
❹ CN604-6
PB/5Vp-p



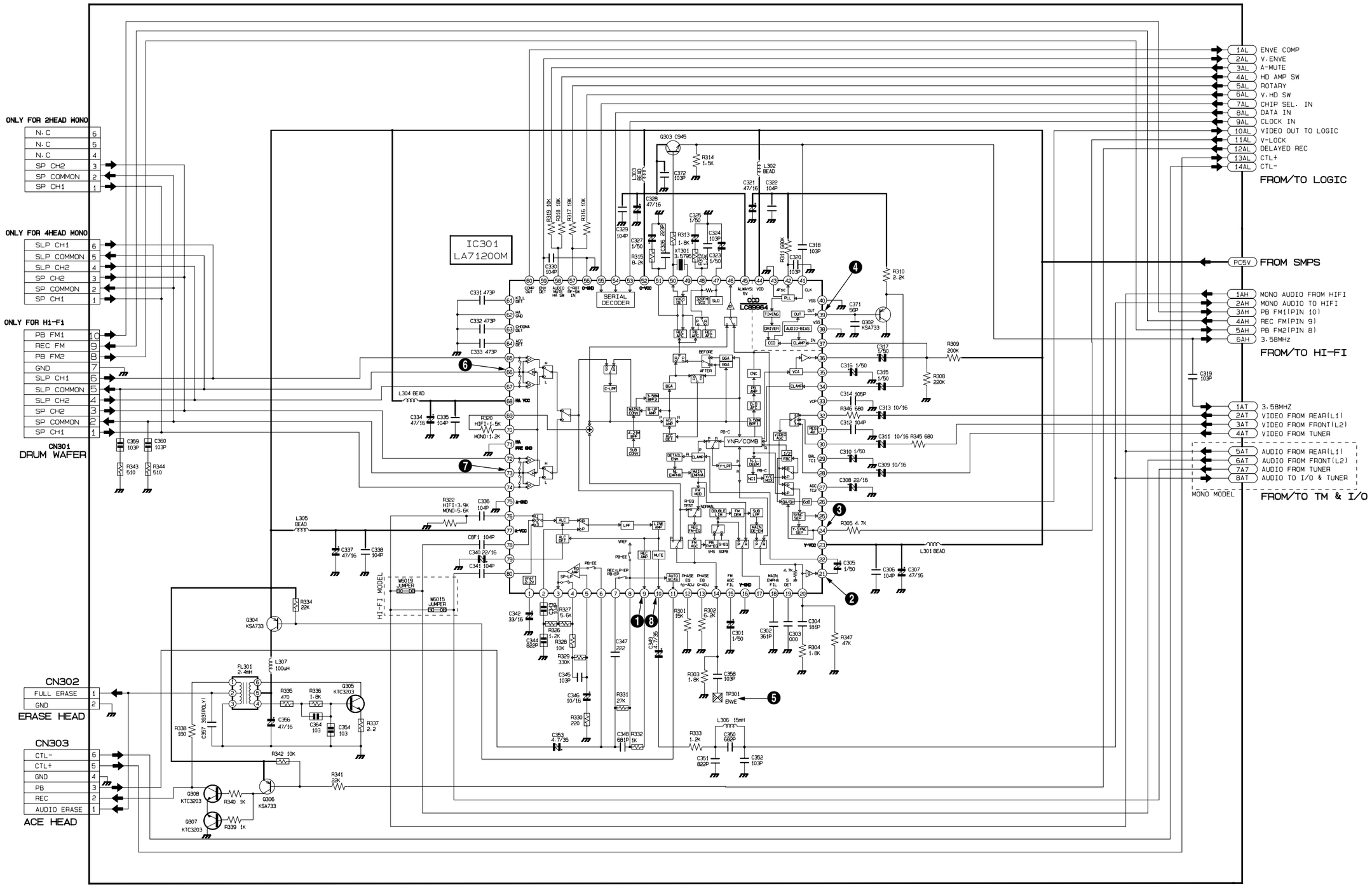
❾ IC601-50
PB,REC/1.8Vp-p



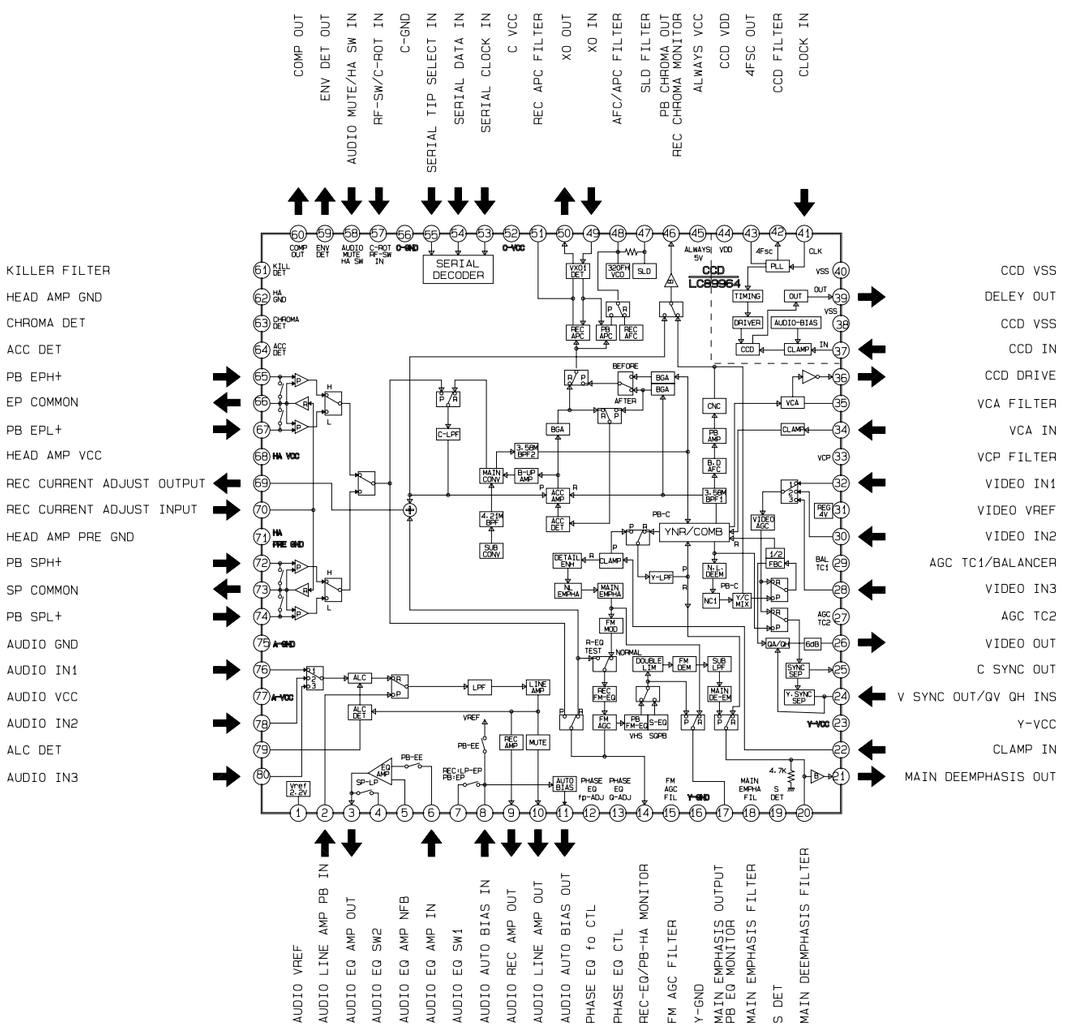
❺ IC602-8
PB/5Vp-p



5-3 Audio/Video


IC301
LA71200M
SERIAL DECODER
LC89064
YNR/COMB
ONLY FOR 2HEAD MONO
N. C
N. C
N. C
SP CH2
SP COMMON
SP CH1
ONLY FOR 4HEAD MONO
SLP CH1
SLP COMMON
SLP CH2
SP CH2
SP COMMON
SP CH1
ONLY FOR Hi-Fi
PB FM1
REC FM
PB FM2
GND
SLP CH1
SLP COMMON
SLP CH2
SP CH2
SP COMMON
SP CH1
CN301
DRUM WAFER
CN302
FULL ERASE
GND
ERASE HEAD
CN303
CTL-
CTL+
GND
PB
REC
AUDIO ERASE
ACE HEAD
1AL ENVE COMP
2AL V.ENVE
3AL A-MUTE
4AL HD AMP SW
5AL ROTARY
6AL V.HD SW
7AL CHIP SEL. IN
8AL DATA IN
9AL CLOCK IN
10AL VIDEO OUT TO LOGIC
11AL V-LOCK
12AL DELAYED REC
13AL CTL+
14AL CTL-
FROM/TO LOGIC
PC5V FROM SMPS
1AH MONO AUDIO FROM HIFI
2AH MONO AUDIO TO HIFI
3AH PB FM1(PIN 10)
4AH REC FM(PIN 9)
5AH PB FM2(PIN 8)
6AH 3.58MHz
FROM/TO HI-FI
1AT 3.58MHZ
2AT VIDEO FROM REAR(L1)
3AT VIDEO FROM FRONT(L2)
4AT VIDEO FROM TUNER
5AT AUDIO FROM REAR(L1)
6AT AUDIO FROM FRONT(L2)
7A7 AUDIO FROM TUNER
8AT AUDIO TO I/O & TUNER
MONO MODEL
FROM/TO TM & I/O
HI-FI MODEL
W5019 JUMPER
W5015 JUMPER
L304 BEAD
L305 BEAD
L301 BEAD
L307 100uH
FL301 2.4mH
Q303 C945
Q304 KSA733
Q305 KTC3203
Q306 KSA733
Q307 KTC3203
Q308 KTC3203
Q302 KSA733
TP301 ENVE
XT301 3.579545
R314 1.5K
R313 1.8K
R315 8.2K
R316 10K
R317 18K
R318 18K
R319 10K
R310 2.2K
R311 680K
R309 200K
R308 220K
R305 4.7K
R334 22K
R342 10K
R341 22K
R340 1K
R339 1K
R338 180
R337 2.2
R336 1.8K
R335 470
R332 1K
R331 27K
R330 220
R329 330K
R328 10K
R327 5.6K
R326 1.2K
R325 1.2K
R324 10K
R323 10K
R322 HIFI:3.9K MONO:5.6K
R320 HIFI:1.5K MONO:1.2K
R303 1.8K
R302 6.2K
R301 15K
R347 47K
R346 680
R345 680
R344 510
R343 510
C372 103P
C373 103P
C321 47/16
C322 104P
C328 47/16
C329 104P
C327 1/50
C326 220P
C325 1/50
C324 103P
C323 1/50
C320 103P
C318 103P
C319 103P
C317 1/50
C316 1/50
C315 1/50
C314 105P
C313 10/16
C312 104P
C311 10/16
C310 1/50
C309 10/16
C308 22/16
C307 47/16
C306 104P
C305 1/50
C304 181P
C303 000
C302 361P
C301 1/50
C331 473P
C332 473P
C333 473P
C334 47/16
C335 104P
C336 104P
C337 47/16
C338 104P
C339 104P
C340 22/16
C341 104P
C342 33/16
C343 4.7/35
C344 822P
C345 103P
C346 10/16
C347 222
C348 681P
C349 4.7/35
C350 682P
C351 822P
C352 103P
C353 4.7/35
C354 103
C355 103P
C356 47/16
C357 393(POLY)
C358 103P
C359 103P
C360 103P
C363 4.7/35
C364 103
L306 15mH
4.5MHz
6.5MHz
5.5MHz
VCO
PLL
AFC
CLAMP
AUDIO-BIAS
DRIVER
TIMING
VCA
YCNR
BGA
AGC DET
SUB CONT
MAIN CONT
PB-C
PB-Y
REC-Y
REC-C
VIDEO AGC
SUB LPF
MAIN LPF
SUB DEM
MAIN DEM
SUB EMPH
MAIN EMPH
SUB AGC
MAIN AGC
SUB BPF
MAIN BPF
SUB LIMIT
MAIN LIMIT
SUB DET
MAIN DET
SUB AMP
MAIN AMP

IC301 LA71200M



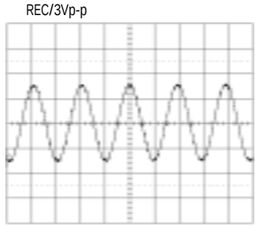
IC301 VOLTAGE TABLE

MODE / PIN	PLAY	STOP	REC
IC301	LA71200M		
1	2.4	2.4	2.4
2	2.4	2.4	2.4
3	2.4	2.4	2.4
4	2.4	2.4	2.4
5	2.4	2.4	2.4
6	2.4	2.4	2.4
7	0	2.4	2.4
8	2.4	2.4	2.4
9	2.4	2.4	2.5
10	2.4	2.7	2.4
11	5.2	5.3	4.4
12	1.0	1.0	1.0
13	1.0	0.9	1.0
14	1.8	1.8	1.8
15	1.7	1.5	1.5
16	0	0	0
17	2.6	2.3	2.3
18	1.3	2.3	2.3
19	0	0	0
20	2.1	2.1	2.2
21	1.0	1.4	1.4
22	3.0	3.0	3.0
23	5.2	5.3	5.2
24	0	0	0
25	0	0	0
26	1.7	0.7	0.7
27	1.6	1.7	1.7
28	2.4	2.4	2.4
29	2.3	2.3	2.3
30	2.4	2.4	2.4
31	4.1	4.1	4.1
32	2.4	2.4	2.4
33	3.1	2.4	2.4
34	3.0	3.0	3.0
35	3.1	2.9	2.9
36	2.7	3.0	3.0
37	2.5	2.5	2.5
38	0	0	0
39	1.6	1.9	1.9
40	0	0	0

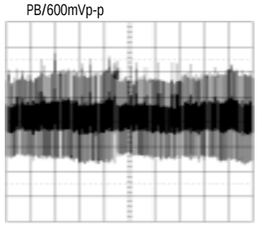
MODE / PIN	PLAY	STOP	REC
IC301	LA71200M		
41	0.8	0.8	0.8
42	2.3	2.3	2.3
43	0	0	0
44	5.3	5.3	5.2
45	5.3	5.3	5.2
46	3.4	2.4	3.4
47	4.8	3.3	3.3
48	4.8	3.3	3.3
49	4.1	4.1	0
50	2.8	2.8	2.8
51	2.1	2.1	2.1
52	0	5.3	5.2
53	4.6	4.6	4.6
54	0	4.6	0
55	1.0	1.0	0.9
56	0	0	0
57	2.6	3.3	2.6
58	1.9	5.2	2.6
59	0.5	0	0
60	0.7	0.5	0.5
61	2.2	3.1	3.1
62	0	0	0
63	4.3	3.2	3.2
64	1.3	2.1	2.1
65	0.7	0.7	0.7
66	0.7	0.7	0.7
67	0.7	0.7	0.7
68	5.2	5.2	5.2
69	0	1.8	1.8
70	0	1.9	1.9
71	0	0	0
72	4.4	4.4	4.4
73	4.4	4.4	4.4
74	4.4	4.4	4.4
75	0	0	0
76	2.4	2.4	2.4
77	5.2	5.2	5.2
78	2.4	2.4	2.4
79	0	0	0
80	2.4	2.4	2.4

WAVEFORM

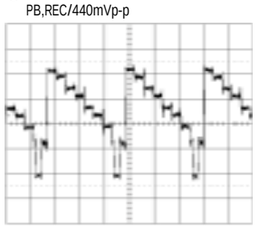
❶ IC301-9
REC/3Vp-p



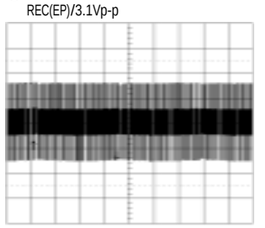
❺ TP301
PB/600mVp-p



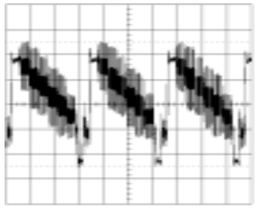
❷ IC301-21
PB,REC/440mVp-p



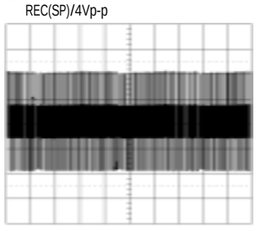
❻ IC301-66
REC(EP)/3.1Vp-p



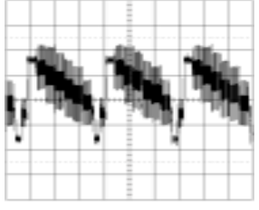
❸ IC301-24
PB,REC/250mVp-p



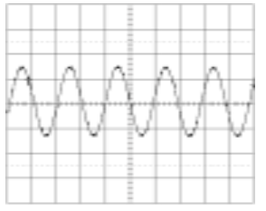
❼ IC301-73
REC(SP)/4Vp-p



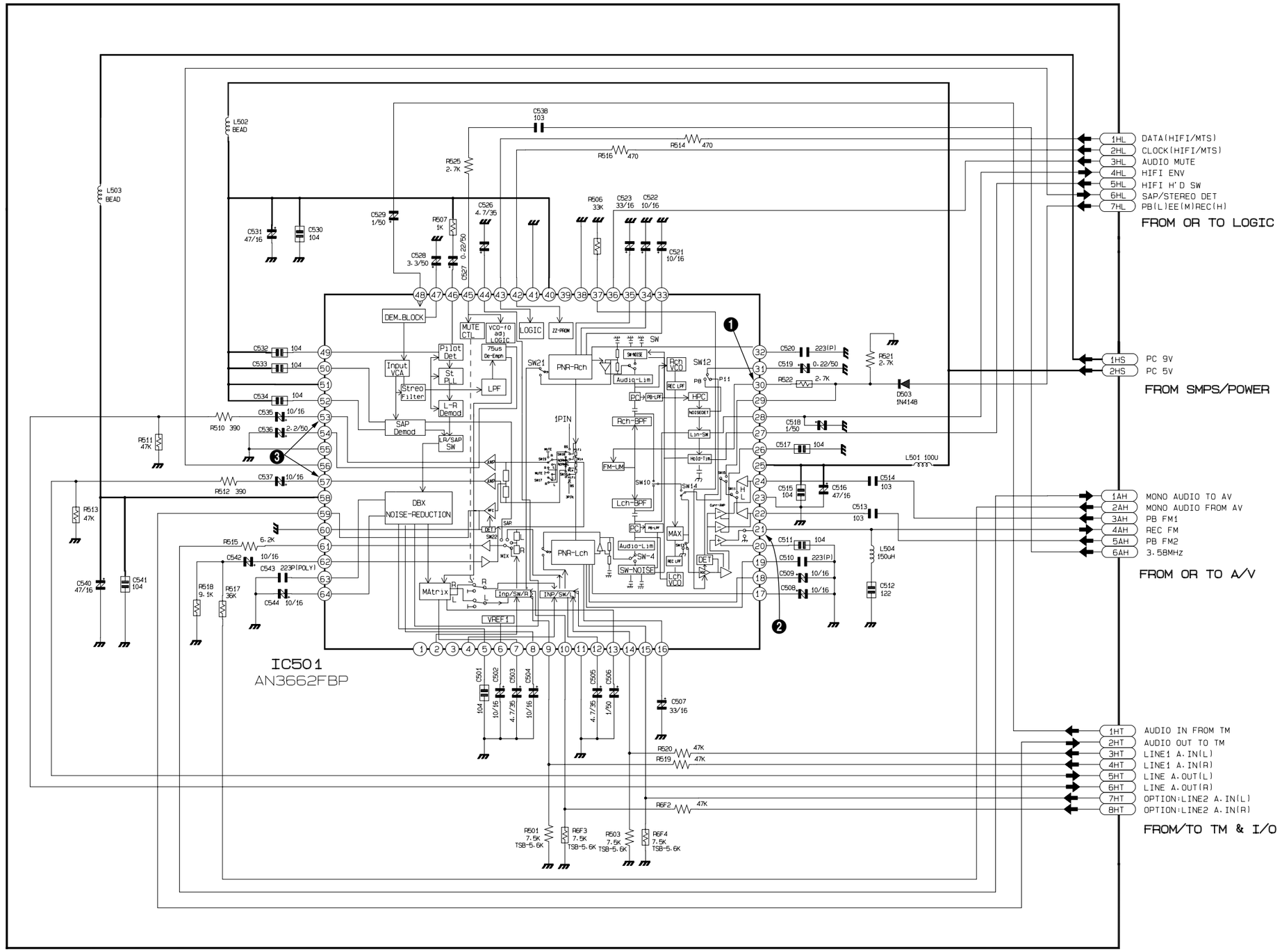
❹ IC301-39
PB,REC/400mVp-p



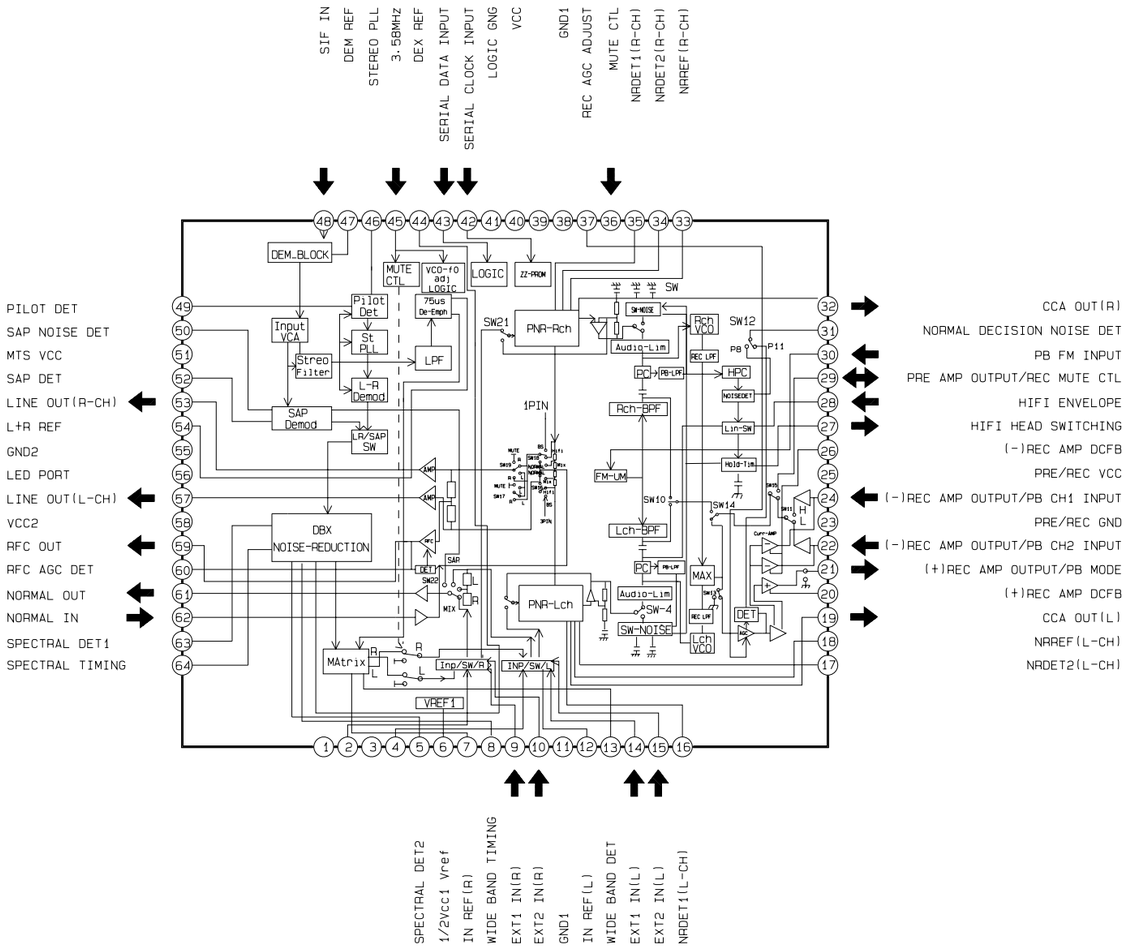
❽ IC301-10
PB/1.4Vp-p



5-4 Hi-Fi (Option)



IC501 AN3662FBP



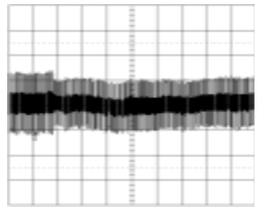
IC501 VOLTAGE TABLE

MODE / PIN	PLAY	STOP	REC
IC501	AN3663FBP		
1	2.5	2.5	2.9
2	0	0	0
3	2.5	2.5	2.5
4	0	0	0
5	2.4	2.4	2.4
6	2.6	2.6	2.6
7	2.1	2.1	2.1
8	0.7	0.7	0.7
9	0	0	0
10	0	0	0
11	0	0	0
12	2.1	2.1	2.1
13	2.6	2.6	2.6
14	0	0	0
15	0	0	0
16	2.6	2.6	2.6
17	0.8	0.5	0.5
18	2.6	2.6	2.6
19	2.6	2.6	2.6
20	0	2.1	2.0
21	0	2.1	2.0
22	0.7	2.1	2.0
23	0	0	0
24	1.9	2.1	2.0
25	4.8	5.2	5.0
26	0	2.1	2.0
27	2.7	5.2	2.6
28	0	4.5	4.4
29	1.7	1.8	4.3
30	0.8	0.7	2.0
31	1.9	0	1.1
32	2.5	2.6	2.6

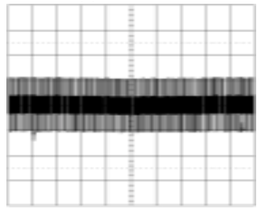
MODE / PIN	PLAY	STOP	REC
IC501	AN3663FBP		
33	2.5	2.6	2.6
34	0.8	0.5	0.5
35	2.6	2.7	2.6
36	0	5.2	5.2
37	1.7	1.7	1.6
38	0	0	0
39	0	0	0
40	5.2	5.3	5.2
41	0	0	0
42	4.9	5.1	5.0
43	4.9	5.1	5.0
44	2.4	2.5	2.5
45	0	0	0
46	3.7	3.7	3.7
47	0	2.7	2.6
48	2.2	2.2	2.2
49	3.6	3.7	3.6
50	3.6	3.2	3.1
51	5.1	5.3	5.2
52	3.5	2.7	2.7
53	4.4	4.6	4.6
54	2.1	2.5	2.4
55	0	0	0
56	0	1.0	1.0
57	4.6	4.6	4.5
58	9.1	9.1	9.0
59	4.5	4.6	4.5
60	0	0	0
61	2.5	2.6	2.6
62	2.5	2.6	2.5
63	2.6	2.6	2.6
64	0.5	0.5	0.5

WAVEFORM

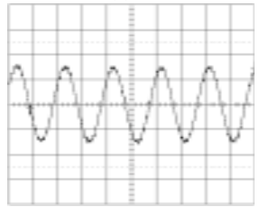
❶ IC501-30
PB/50mVp-p



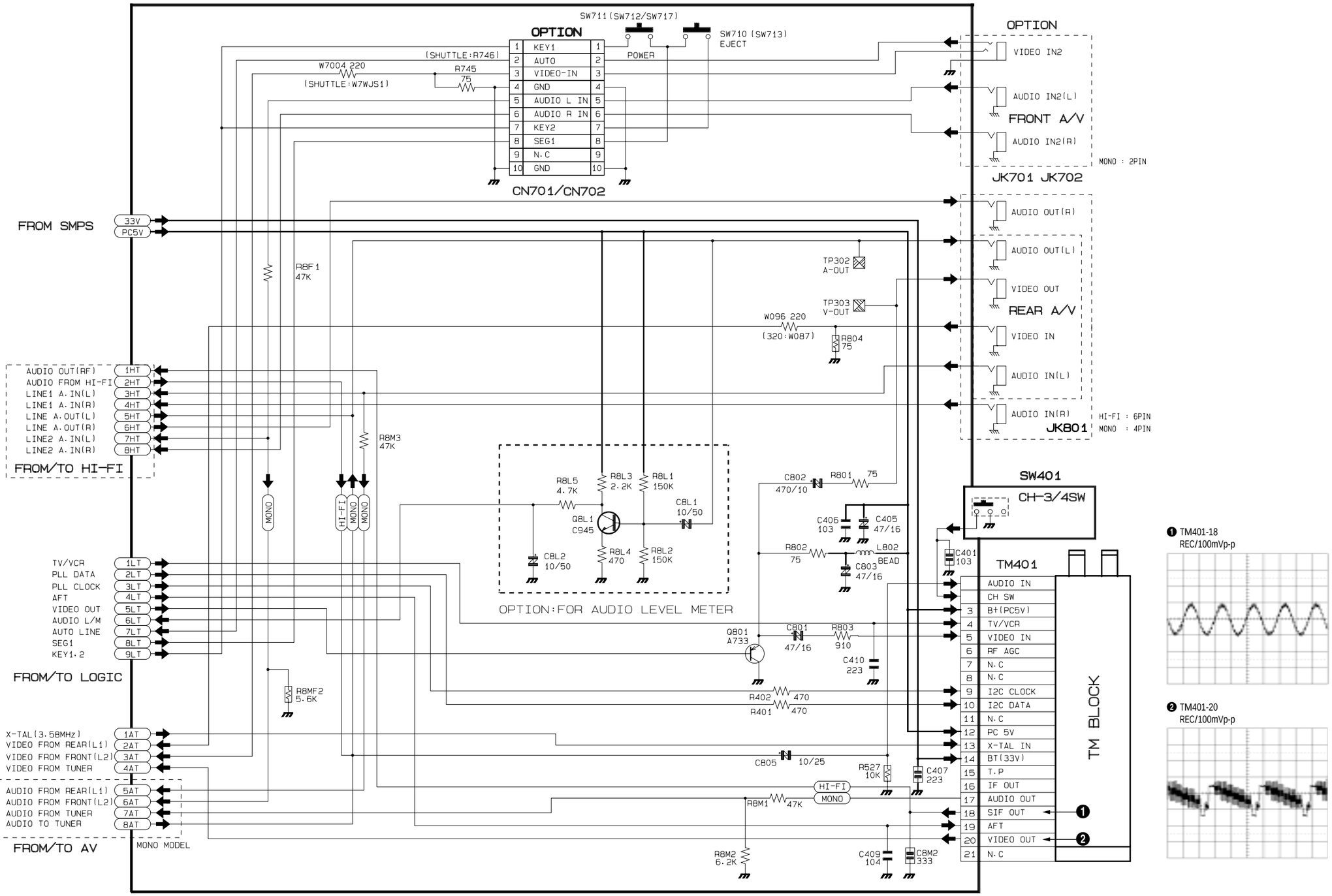
❷ IC501-21
PB/50mVp-p



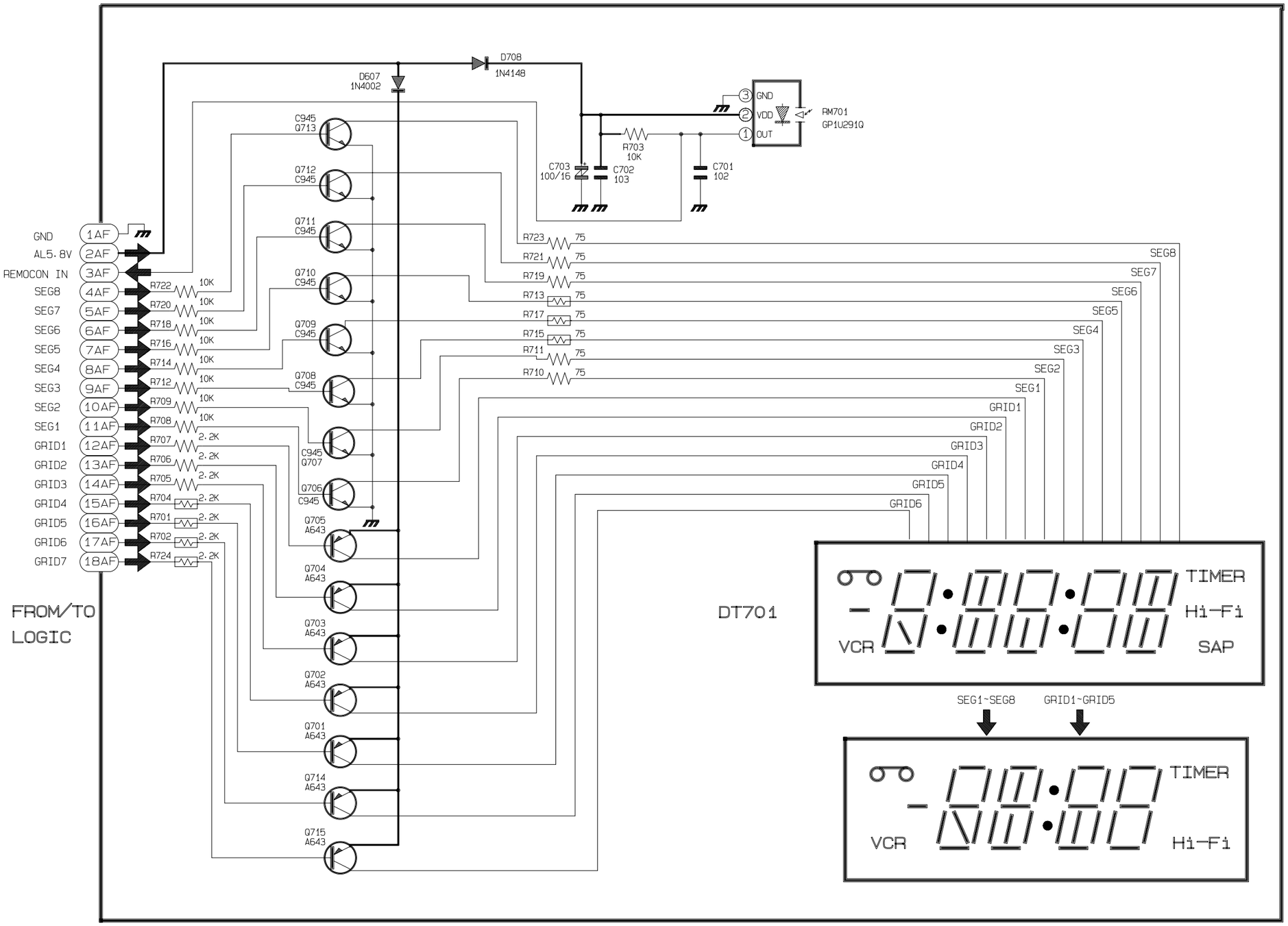
❸ IC501-53, 57
PB,REC/150mVp-p



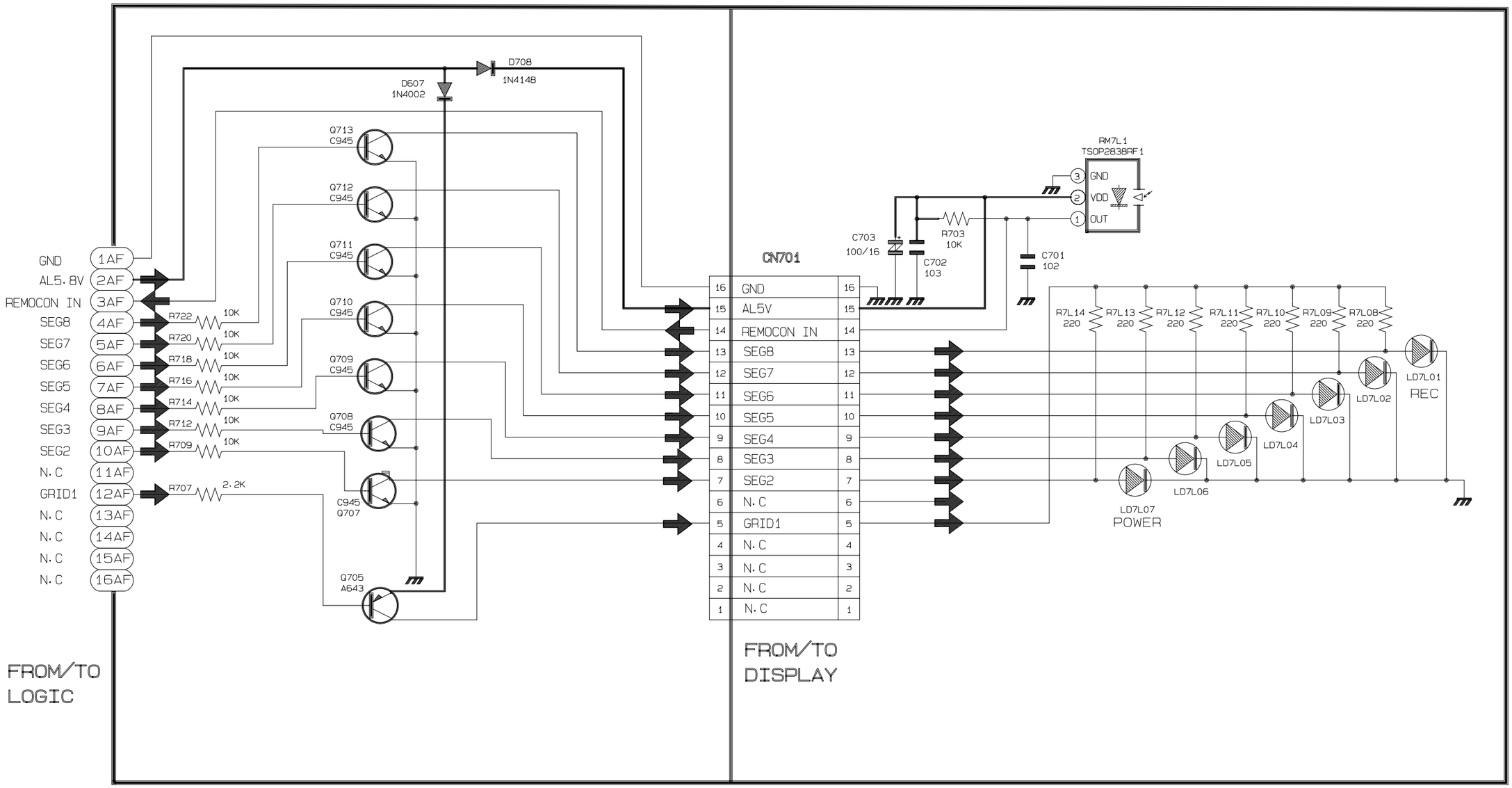
5-5 TM-Block/Input-Output



5-6 Display (LED-Module ; VR9180/9160/8160/5160/9180C/9160C/8170C/8160C/5160C)s



5-7 Display (LED-Lamp ; VR8140C/5140C)



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MECHANICAL MANUAL

TS-10 DECK

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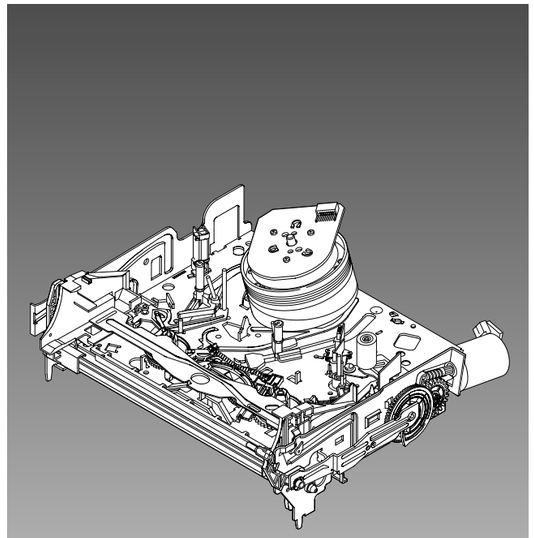
MECHANICAL Manual

◆ File with the SERVICE MANUAL.

TS-10 DECK



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1. Disassembly and Reassembly

2. Alignment and Adjustment

1. Disassembly and Reassembly

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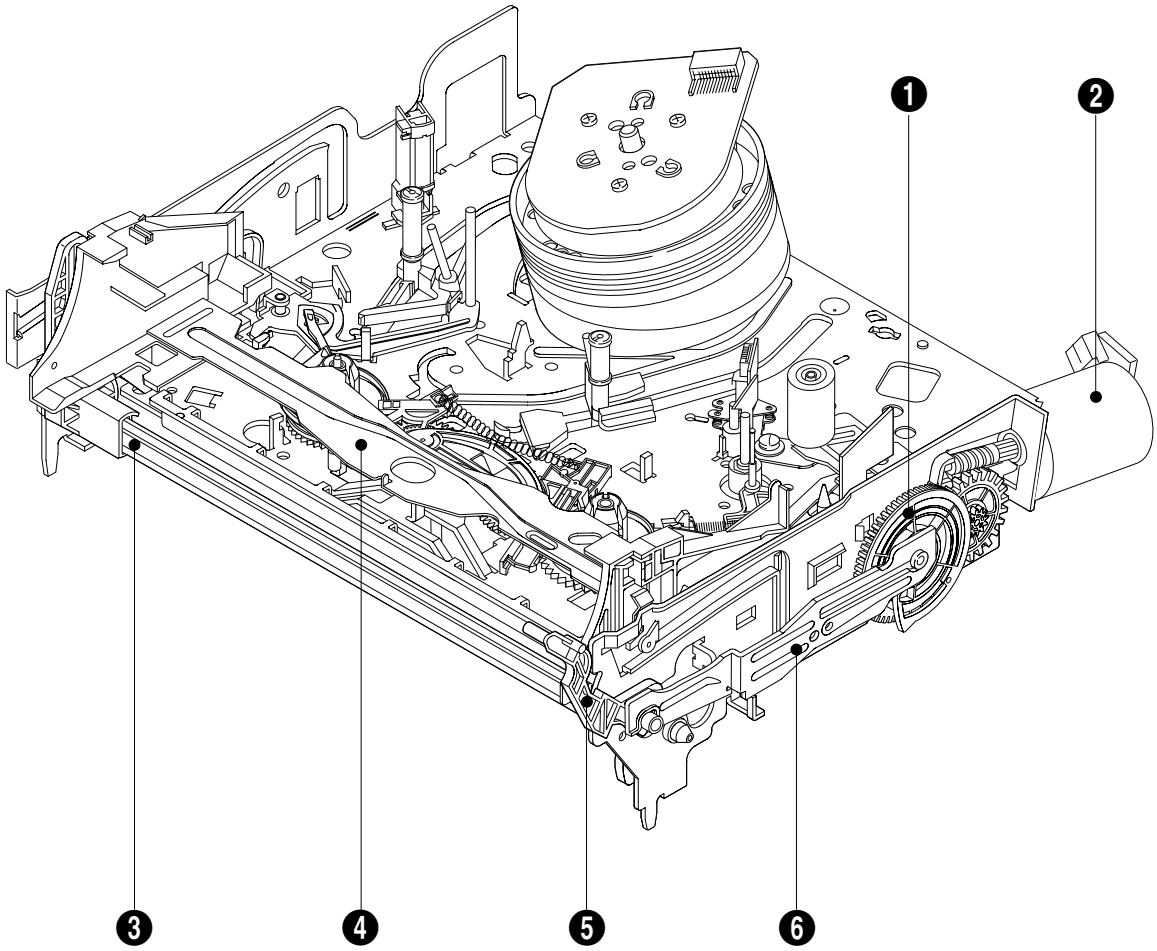


Fig. 1-1 Top parts Location-1

1. GEAR FL CAM
2. MOTOR LOADING ASS'Y
3. LEVER FL ARM ASS'Y
4. HOLDER FL CASSETTE ASS'Y
5. LEVER FL DOOR
6. SLIDER FL DRIVE

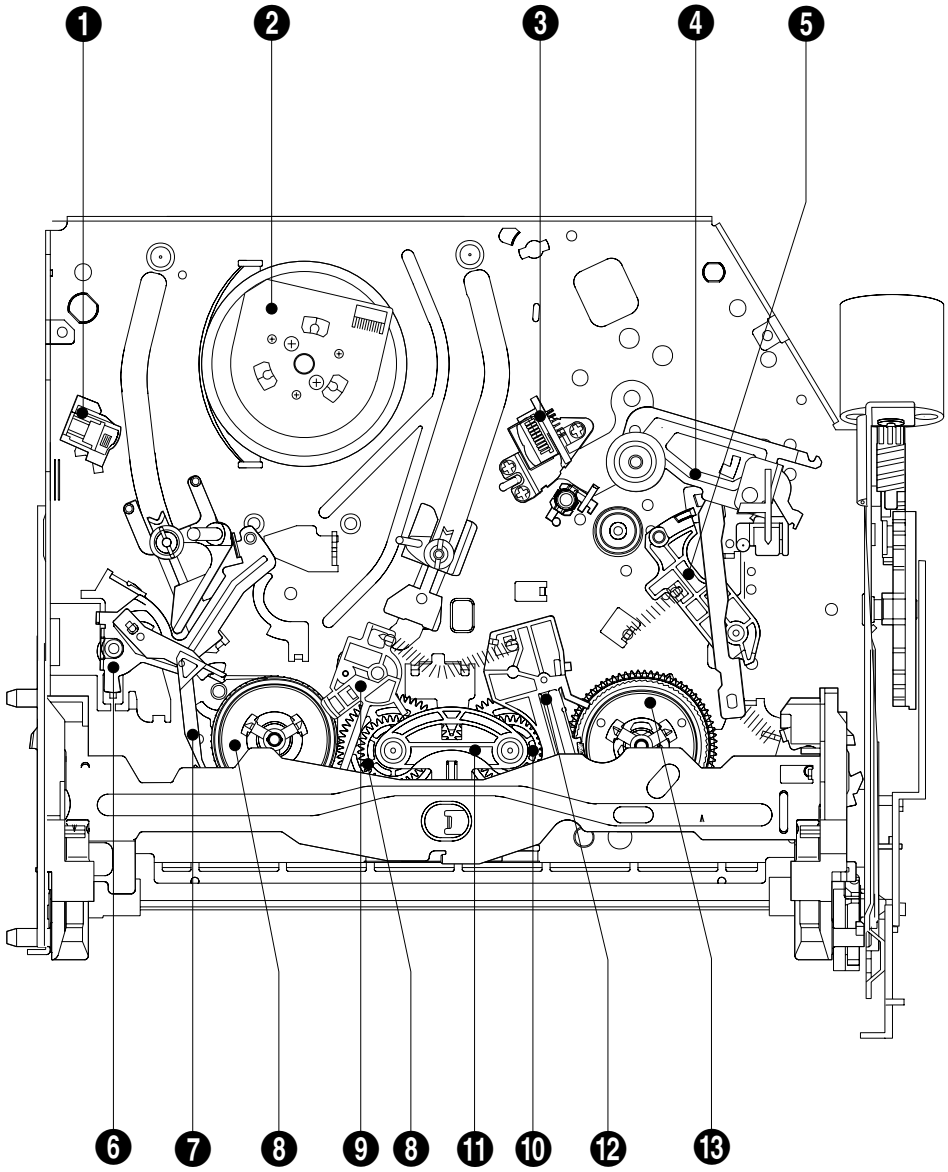


Fig. 1-2 Top Parts Location-2

1. FE HEAD
2. CYLINDER ASS'Y
3. ACE HEAD ASS'Y
4. LEVER UNIT PINCH ASS'Y
5. LEVER #9 GUIDE ASS'Y
6. LEVER TENSION ASS'Y
7. BAND BRAKE ASS'Y
8. DISK S REEL
9. LEVER S BRAKE ASS'Y
10. GEAR IDLE
11. LEVER IDLE
12. LEVER T BRAKE ASS'Y
13. DISK T REEL

1-1-2 Bottom View

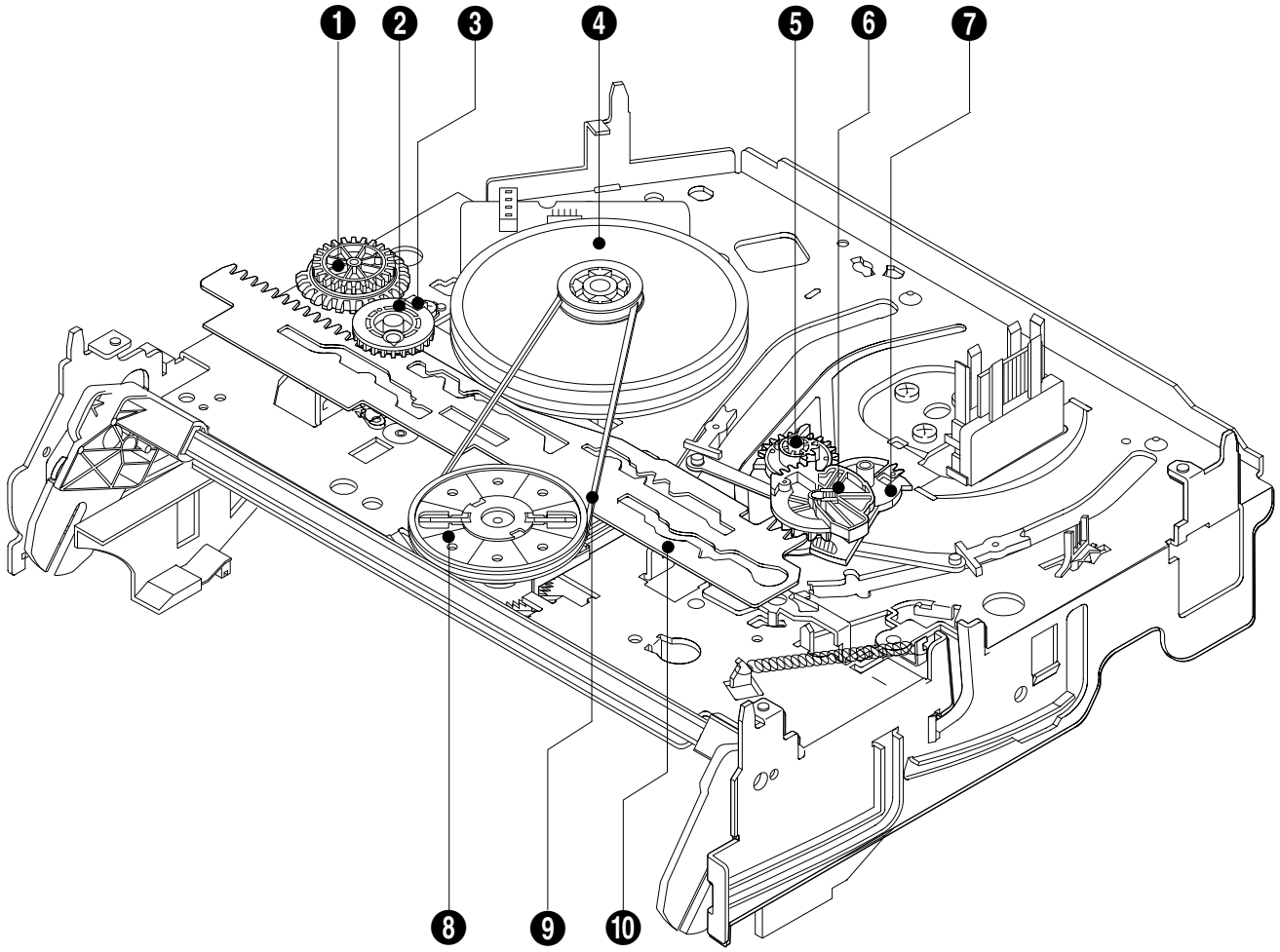


Fig. 1-3 Bottom Parts Location

1. GEAR JOINT 1
2. GEAR JOINT 2
3. BRACKET GEAR
4. MOTOR CAPSTAN ASS'Y
5. LEVER T LOAD ASS'Y
6. GEAR LOADING DRIVE
7. LEVER S LOAD ASS'Y
8. HOLDER CLUTCH ASS'Y
9. BELT PULLEY
10. SLIDER CAM

1-2 Main Deck

1-2-1 Lever FL Door Removal

1) Push the Holder FL Cassette Ass'y ❶ about 20mm in the direction of arrow "A".
2) Rotate the Lever FL Door ❷ in the direction of arrow "B".
3) Release the Hook ❸ and Remove the Lever FL Door ❷ in the direction of arrow "C".

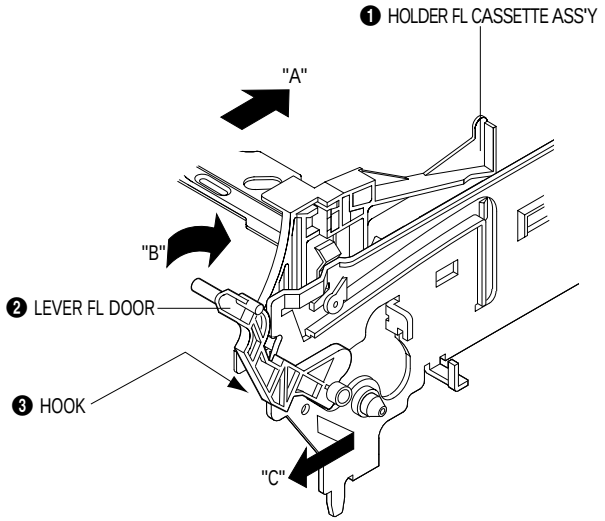


Fig. 1-4 Lever FL Door Removal

1-2-2 Holder FL Cassette Ass'y Removal

1) Pull the Holder FL Cassette Ass'y ❶ to the eject position.
2) Pull the Holder FL Cassette Ass'y ❶ as grasping the Holder FL Cassette Ass'y ❶ and Lever FL Cassette-R ❷ in the same time to release hooking from Main Base until the Boss [A] of Holder FL Cassette Ass'y ❶ is taken out from the Rail [B].
3) Lift the Holder FL Cassette Ass'y ❶, in this time, you have to grasp the Lever FL Cassette-R ❷ Continuously until the Holder FL Cassette Ass'y ❶ is taken out completely.

Note : Be sure to insert Lever FL Cassette-R ❷ in the direction of "A" to prevent separation and breakage of the Lever FL Cassette-R ❷ at disassembling and reassembling.

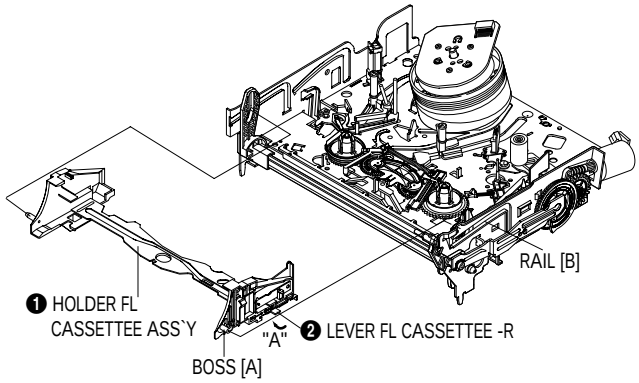


Fig. 1-5 Holder FL Cassette Ass'y Removal

1-2-3 Slider FL Drive, Gear FL Cam Removal

1) Pull the Slider FL Drive ❶ to the front direction.
2) Remove the Slider FL Drive ❶ in the direction of arrow. (Refer to Fig. 1-6)
3) Remove the Gear FL cam ❷.

Note : When reinstalling be sure to reassemble Slider FL drive ❶ after you insert the Boss of Lever FL ARM-R in Groove of Slider Fl drive ❶.

Assembly : Align the Gear FL Cam ❶ with the Gear worm wheel Post as shown drawing.
(Refer to Timing point)

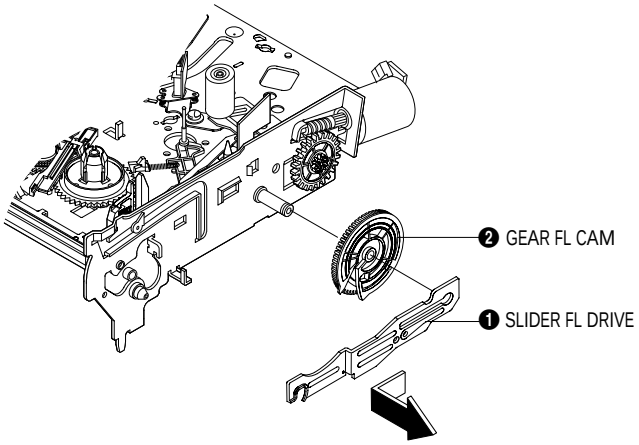


Fig. 1-6 Slider FL Drive Removal

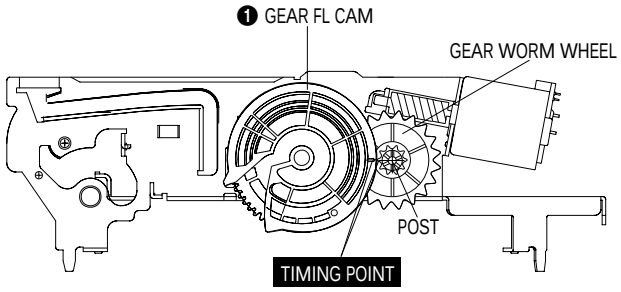


Fig. 1-7 Gear FL Cam, Gear Worm

1-2-4 Lever FL Arm Ass'y Removal

1) Push the hole "A" in the direction of arrow "B" use the pin.(about Dia. 2.5)
2) Pull out the Lever FL Arm Ass'y ❶ from the Boss of Main Base.
3) Remove the Lever FL Arm Ass'y ❶ in the direction of arrow "C".

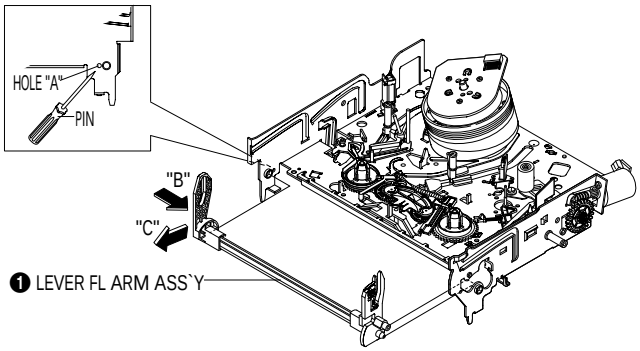


Fig. 1-8 Lever FL Arm Ass'y Removal

1-2-5 Gear Worm Wheel Removal

1) Remove the Gear Worm wheel ❶.

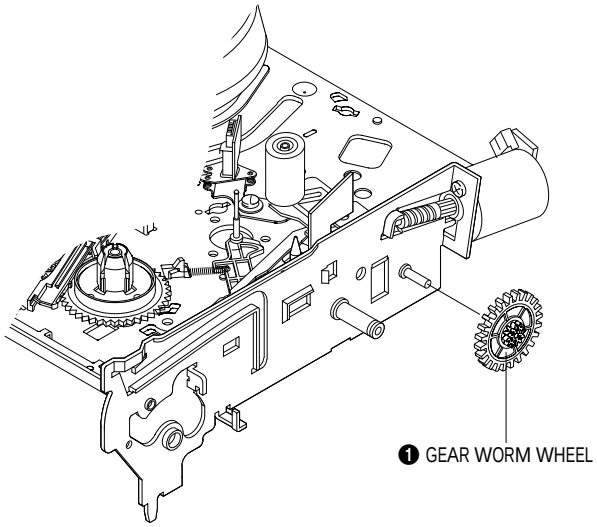


Fig. 1-9 Gear Worm Wheel Removal

1-2-6 Motor Loading Ass'y Removal

1) Remove the screw ❶.
2) Remove the Motor Loading Ass'y ❷.

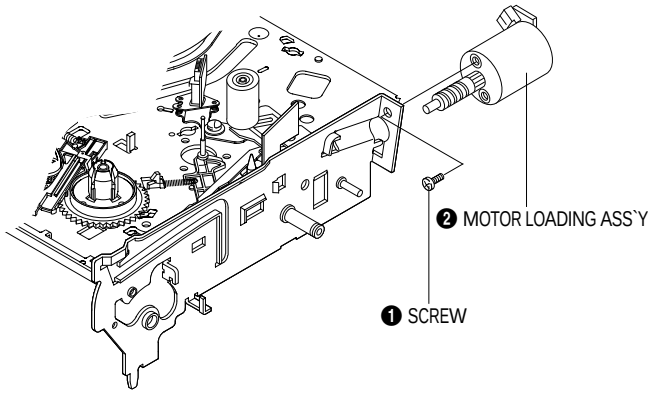


Fig. 1-10 Motor Loading Ass'y Removal

1-2-7 Bracket Gear, Gear Joint 2, 1 Removal

1) Remove the SCREW ❶.
2) Remove the Bracket Gear ❷.
3) Remove the Gear Joint 2 ❸.
4) Remove the Gear Joint 1 ❹.

Assembly :
1) Be sure to align dot mark of Gear Joint 1 ❶ with dot mark of Gear Joint 2 ❷ as shown Fig 1-12. (Refer to Timing point1)
2) Confirm the Timing Point 2 of the Gear Joint 2 ❷ and Slider Cam ❸.

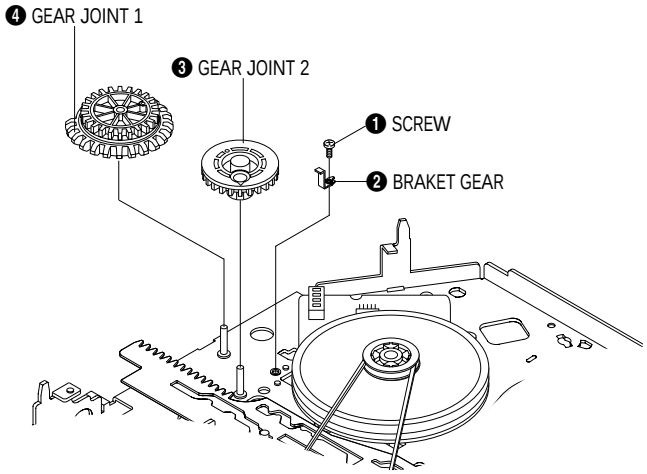


Fig. 1-11 Bracket Gear, Gear Joint 1,2 Removal

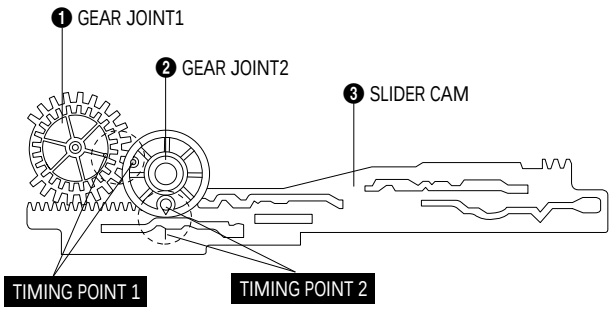


Fig. 1-12 Gear Joint 1,2 Assembly

1-2-8 Gear Loading Drive, Slider Cam, Lever Load S, T Ass'y Removal

1) Remove the Belt Pulley. (Refer to Fig. 1-30)
2) Remove the Gear Loading Drive ❶ after releasing Hook [A] in the direction arrow as shown in detail drawing.
3) Remove the Slider Cam ❷.
4) Remove the Lever Load ❸, Link Load ❺ & Lever Load ❹, Link Load ❻.

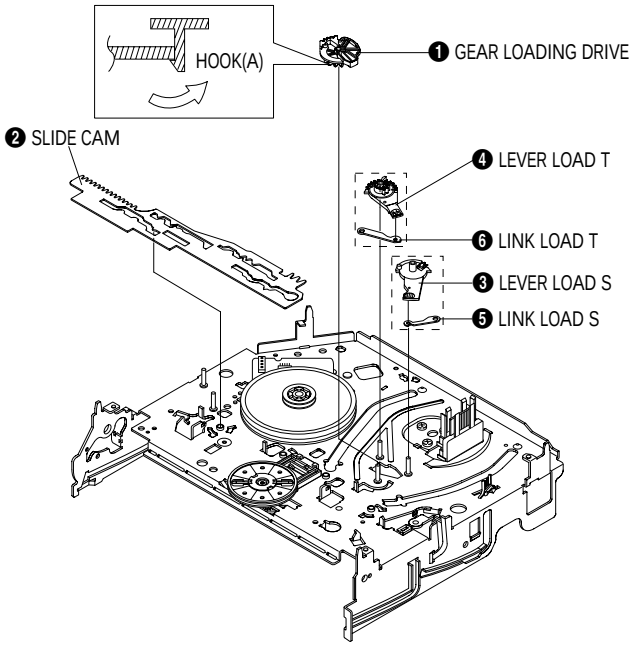


Fig. 1-13 Gear Loading Drive, Slider Cam, Lever T, S Load Ass'y Removal

1-2-9 Gear Loading Drive, Slider Cam, Lever Load S, T Ass'y Assembly

1) When reinstalling, be sure to align dot of Lever Load T Ass'y ❶ with dot of Lever Load S Ass'y ❷ as shown in drawing, (Refer to Timing Point 1).
2) Insert the Pin A,B,C,D into the Slider Cam ❸ hole,
3) Be sure to align dot of Lever Load T ❶ and dot of Gear Loading Drive ❹, (Refer to Timing Point 2).
4) Aline dot of Gear Loading drive ❹ with mark of Slider Cam ❸ as shown in drawing(Refer to Timing Point 3).

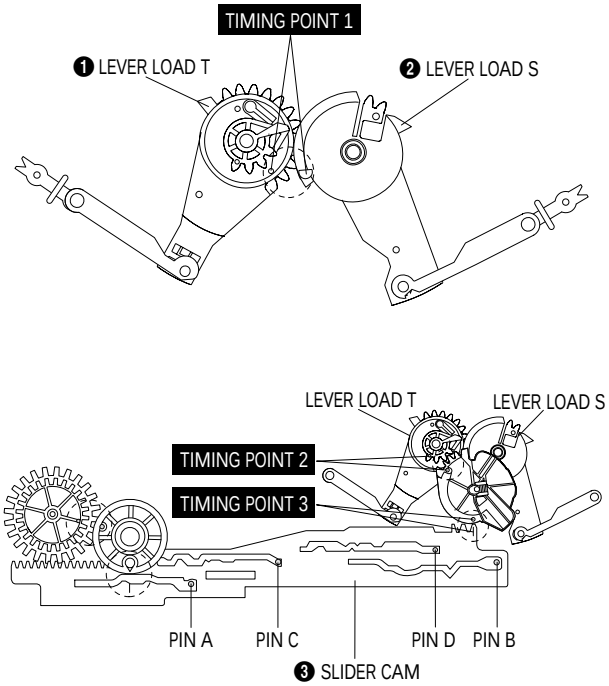


Fig. 1-14 Gear Loading Drive, Slider Cam, Lever Load S, T Ass'y Assembly

1-2-10 Lever Pinch Drive, Lever Tension Drive Removal

1) Remove the Lever Pinch Drive ❶, Lever Tension Drive ❷.

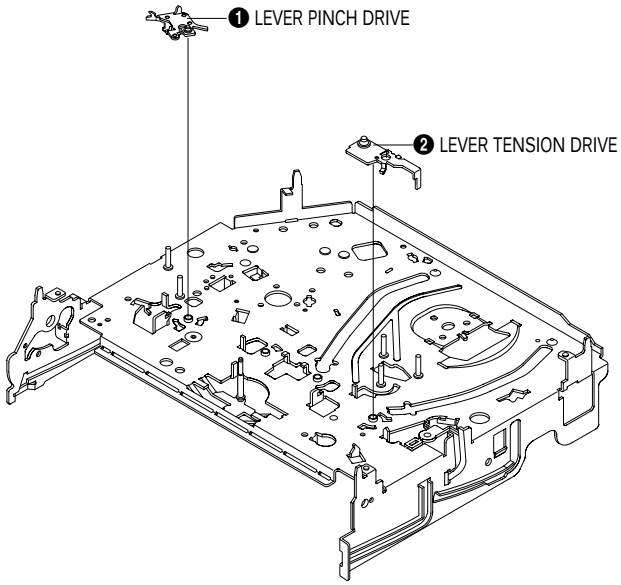


Fig. 1-15 Lever Pinch Drive, Lever Tension Drive Removal

1-2-11 Lever Tension Ass'y, Band Brake Ass'y Removal

1) Remove the Lever Brake S Ass'y (Refer to Fig 1-17).
2) Remove the Spring Tension Lever ❶.
3) Rotate stopper of Main Base in the direction of arrow "A".
4) Lift the Lever Tension Ass'y ❷ & Band brake Ass'y ❸.

Note :
1) When replacing the Lever Tension Ass'y ❷, be sure to apply Grease on the post,
2) Take care not to touch stain on the felt side, and not to be folder and broken Band brake Ass'y
3) After Lever Tension Ass'y seated, Rotate stopper of Main Base to the Mark[B].

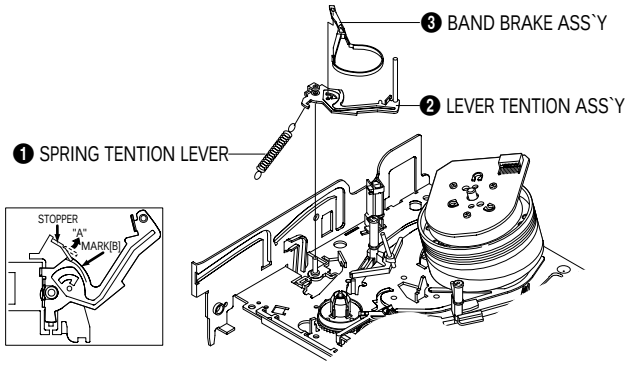


Fig. 1-16 Lever Tension Ass'y, Band Brake Ass'y Removal

1-2-12 Lever Brake S, T Ass'y Removal

1) Release the Hook [A] and the Hook [B], [C] in the direction of arrow as shown in Fig 1-17.
2) Lift the Lever S, T Brake Ass'y ❶, ❷ with spring brake ❸.

Assembly :
1)Assembly the Lever S Brake Ass'y ❶ on the Main Base.
2)Assembly the Lever T Brake Ass'y ❷ with spring brake ❸.

Note : Take extreme care not to be folded and transformed Spring Brake at removing or reinstalling.

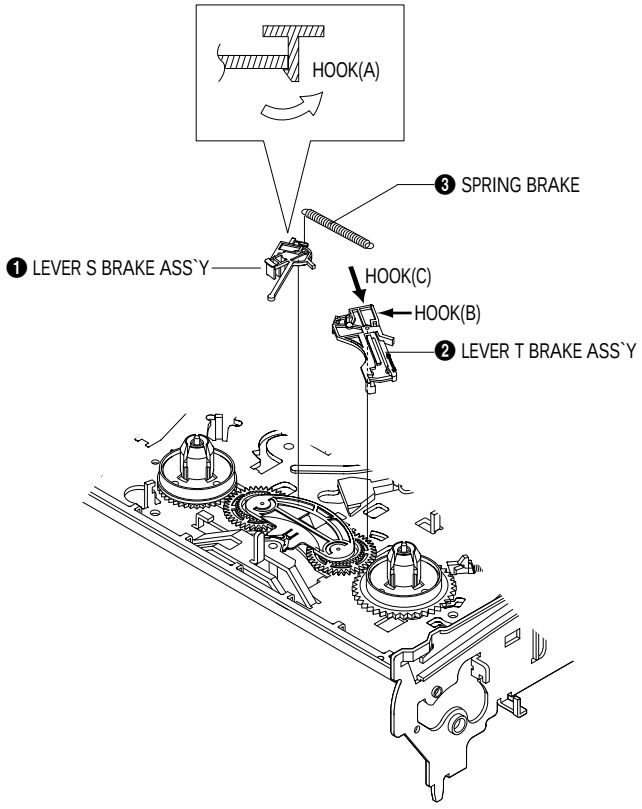


Fig. 1-17 Lever Brake S, T Ass'y Removal

1-2-13 Gear Idle Ass'y Removal

1) Push the Lever Idle ❶ in the direction of arrow "A", "B".
2) Lift the Lever Idle ❶.

Assembly :
1) Apply oil in two Bosses of Lever Idle ❶.
2) Assemble the Gear Idle ❷ with the Lever Idle ❶.

Note : When replacing the Gear Idle ❷, be sure to add oil in the boss of Lever Idle ❶.

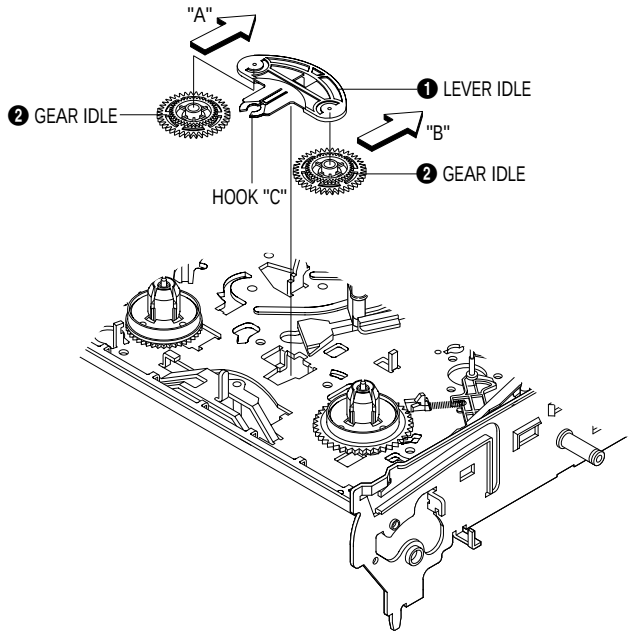


Fig. 1-18 Gear Idle Ass'y Removal

1-2-14 Disk S, T Reel Removal

1) Lift the Disk S, T Reel ❶, ❷.

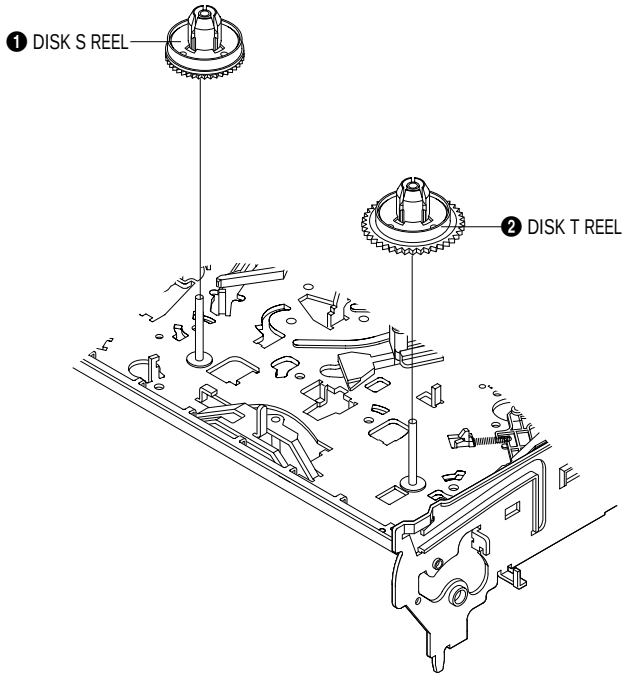


Fig. 1-19 Disk S, T Reel Removal

1-2-15 Holder Clutch Ass'y Removal

1) Remove the Washer Slit ❶.
2) Lift the Holder Clutch Ass'y ❷.

Note : When you reinstall Holder Clutch Ass'y
1) Check the condition of spring as shown in detail A.
2) Don't push Holder Clutch Ass'y down with excessive force Just insert Holder Clutch Ass'y into post center with dead force and Rotate it smoothly.
Be sure to confirm that spring is in the slit of Gear Center Ass'y as shown in detail B.

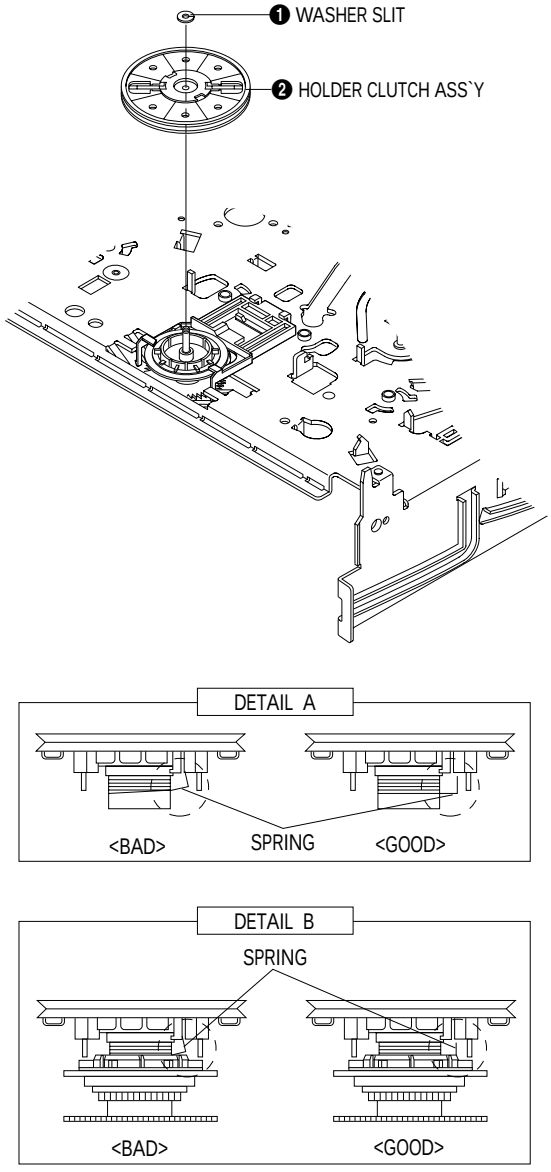


Fig. 1-20 Holder Clutch Ass'y Removal

1-2-16 Lever Up Down Ass'y, Gear Center Ass'y Removal

1) Remove the 2 hooks in the direction of arrow as shown Fig. 1-21 and lift the Lever Up Down Ass'y ❶.
2) Lift the Gear Center Ass'y ❷.

Assembly :
1) Insert the Lever Up Down Ass'y ❶ in the rectangular holes on Main Base as shown in Fig 1-22.
2) Lift the Lever Up Down Ass'y ❶ about 35°. (Refer to Fig 1-22)
3) Insert Ring of the Gear Center Ass'y ❷ in the Guide of the Lever Up Down Ass'y ❶.
4) Insert the Gear Center Ass'y ❷ in the post on Main Base.
5) Push down the Lever Up Down Ass'y ❶ for locking of the Hook.

Note :
1) Take care not to separate and sentence does not mark sense.
2) Be sure to confirm that Ring of the Gear Center Ass'y ❷ is in the Guide of the Lever Up Down Ass'y ❶ after finishing assembly of Lever Up Down Ass'y ❶ and Gear Center Ass'y ❷.

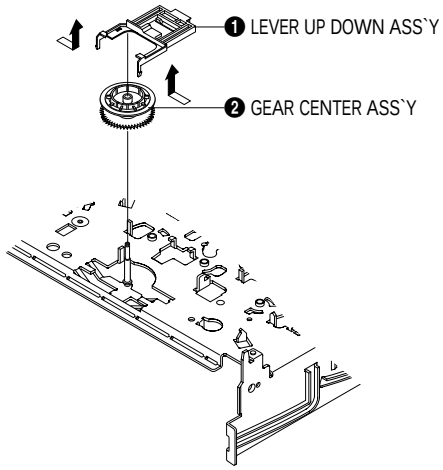


Fig. 1-21 Lever Up Down Ass'y Removal

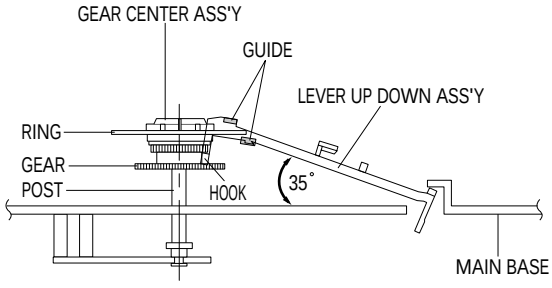


Fig. 1-22 Lever Up Down Ass'y Removal

1-2-17 Guide Cassette Door Removal

1) Lift the Hook [A].
2) Rotate the Guide Cassette Door ❶ in the direction of arrow.

Note : After reinstalling the Guide Cassette Door ❶ sure the Hook [A].

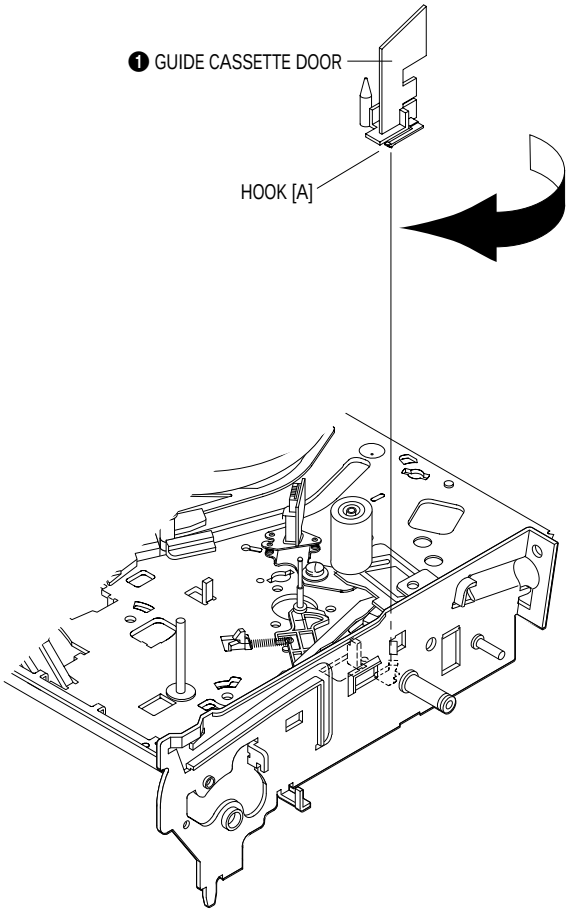


Fig. 1-23 Guide Cassette Door Removal

1-2-18 Lever Unit Pinch Ass'y, Plate Joint, Spring Pinch Drive Removal

1) Lift the Unit Pinch Ass'y ❶.
2) Remove the Plate Joint ❷ from Lever Pinch Drive.
3) Remove the Spring Pinch Drive ❸.

Note :
1) Take extreme care not to touch the grease on the Roller Pinch.
2) When reinstalling, be sure to apply grease on the post pinch roller.

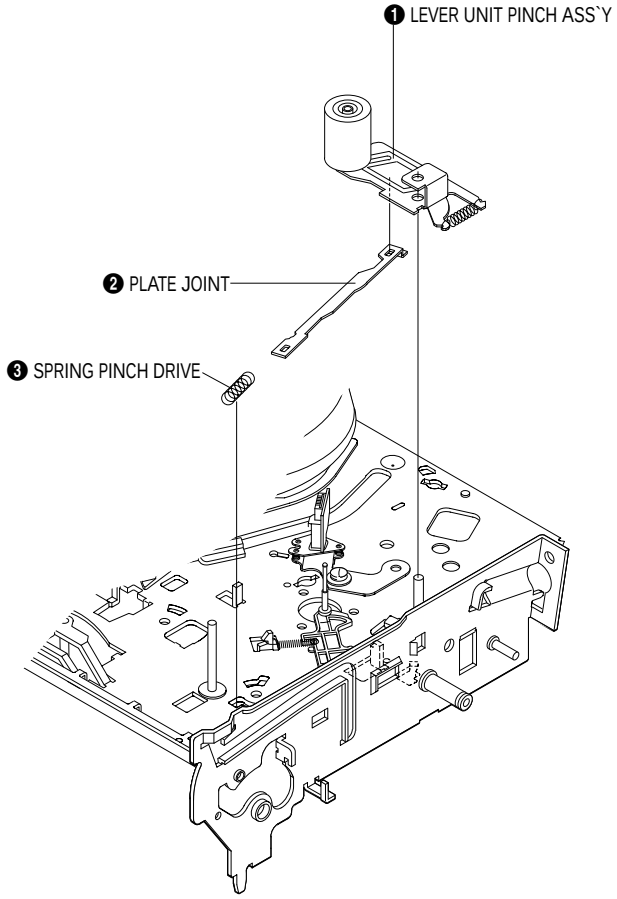


Fig. 1-24 Lever Unit Pinch Ass'y, Plate Joint, Spring Pinch Drive Removal

1-2-19 Lever #9 Guide Ass'y Removal

1) Remove the Spring #9 Guide ❶.
2) Lift the Spring #9 Guide Ass'y ❷ in the direction of arrow "A".

Note :
1) Take extreme care not to get grease on the tape Guide Post.
2) After reinstalling, check the bottom side of the Post #9 Guide to the top side of Main Base.

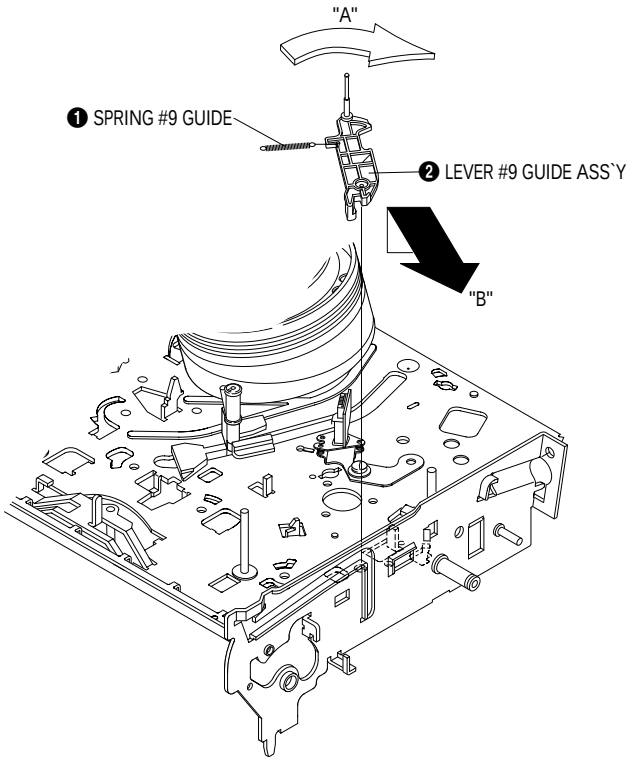


Fig. 1-25 Lever #9 Guide Ass'y Removal

1-2-20 FE Head Removal

1) Remove the screw ❶.
2) Lift the FE Head ❷.

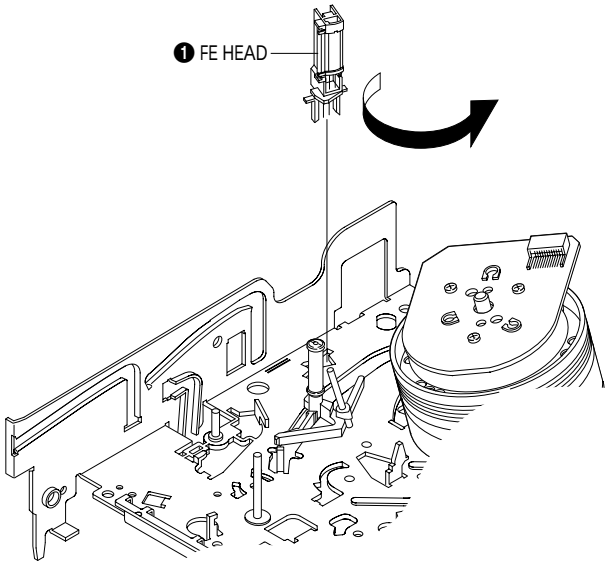


Fig. 1-26 FE Head Removal

1-2-21 ACE Head Removal

1) Pull out the FPC from connector of ACE Head Ass'y ❷.
2) Remove the screw ❶.
3) Lift the ACE Head Ass'y ❷.

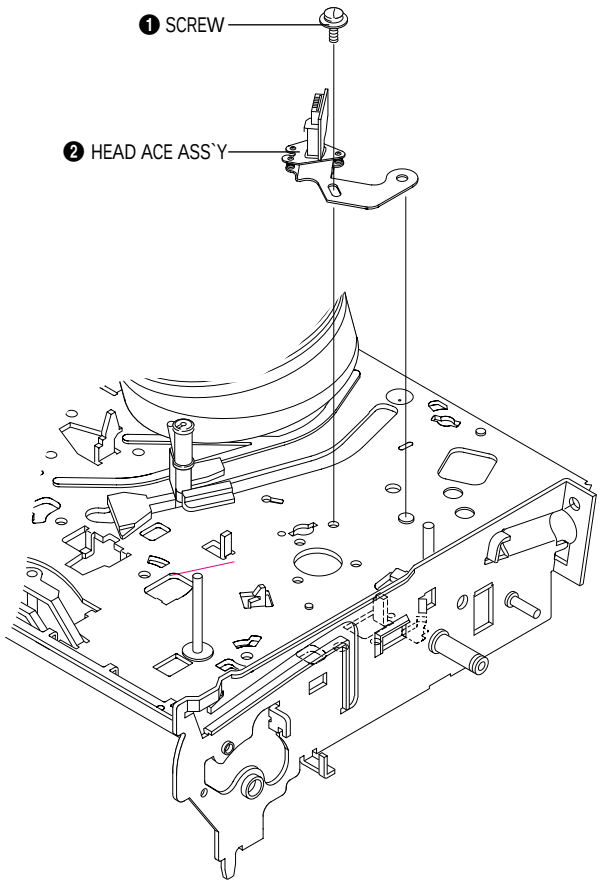


Fig. 1-27 ACE Head Removal

1-2-22 Slider S, T Ass'y Removal

1) Move the Slider S, T Ass'y ❶, ❷ to slot, and then lift it to remove. (Refer to arrow)

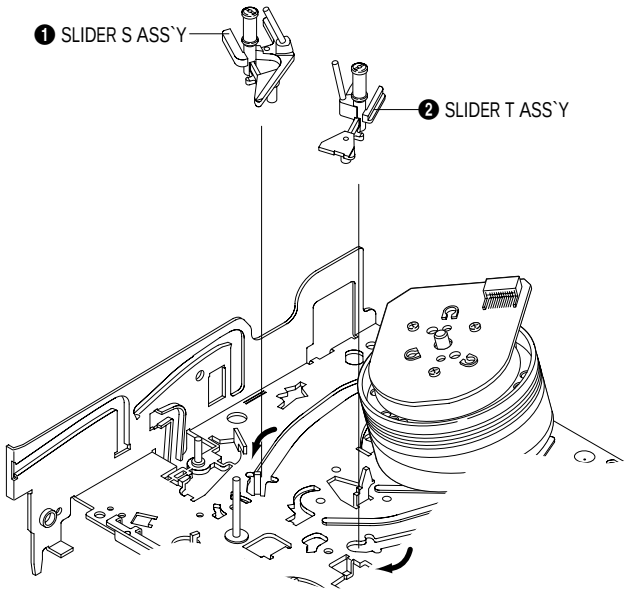


Fig. 1-28 Slider S, T Ass'y Removal

1-2-23 Plate Ground Deck, Cylinder Ass'y Removal

1) Remove the 3 Screws ❶.
2) Lift the Plate Ground Deck ❷.
3) Lift the Cylinder Ass'y ❸.

Assembly :
1) Match the 3 holes in the bottom of Cylinder ass'y ❸ to the 3 holes of Main Base as attending not to drop or knock the Cylinder ass'y ❸.
2) Tighten the 1 Screw ❶.
3) Match the Plate Ground Deck ❷ to the Hole of Base Main.
4) Tighten the other 2 Screws ❶.

Note :
1) Take care not to touch the Cylinder Ass'y ❸ and the tape guide post at reinstalling.
2) When reinstalling, Don't push down too much on Screw Driver.

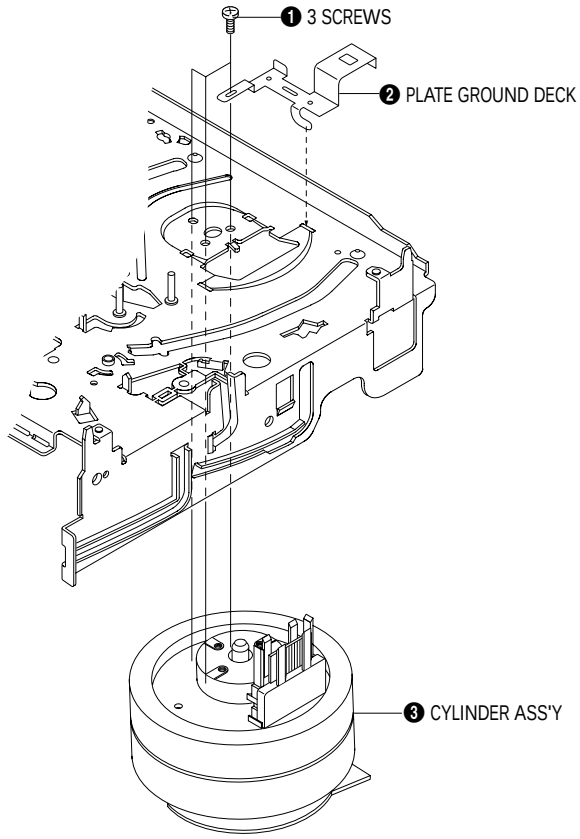


Fig. 1-29 Plate Ground Deck, Cylinder Ass'y Removal

1-2-24 Belt Pulley Removal

1) Remove the Belt Pulley ❶.

Note : Take extreme care not to get grease on Belt Pulley ❶ at assembling or reassembling.

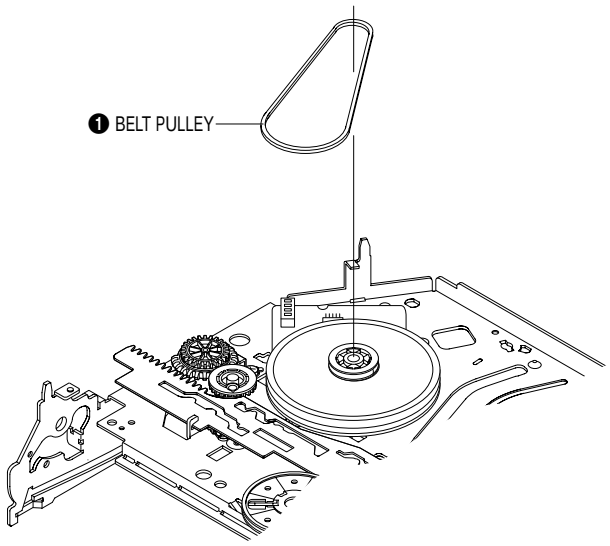


Fig. 1-30 Belt Pulley Removal

1-2-25 Level Head Cleaner Ass'y Removal (Optional)

1) Release the Hook ❶.
2) Lift the Lever Head Cleaner Ass'y ❷.

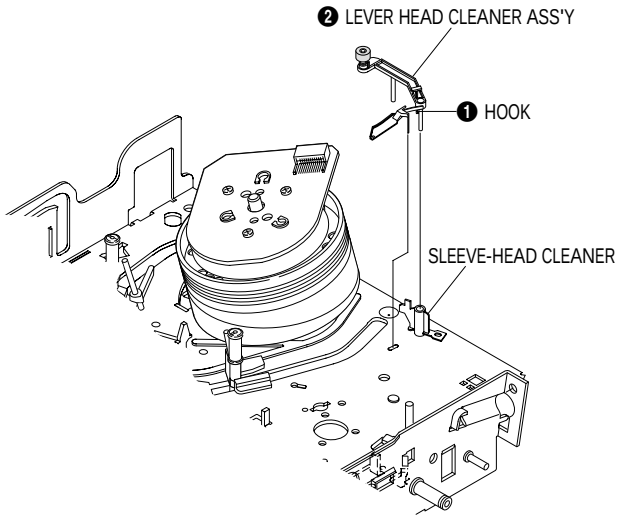


Fig. 1-31 Level Head Cleaner Ass'y Removal

1-2-26 Damper Capstan, Motor Capstan Ass'y Removal

1) Remove the Damper Capstan ❶ in the direction of arrow.
2) Remove the 3 Screws ❷.
3) Remove the Motor Capstan Ass'y ❸.

Assembly :
1) Match the 3 holes of Motor Capstan Ass'y ❸ to the 3 holes of Main Base. Be careful not to drop or knock the Motor Capstan Ass'y ❸.
2) Tighten the 3 Screws ❷ in the direction of arrow as shown detail drawing.
3) Assemble the Damper Capstan ❶.

Note : After tightening screws, check if there is gap between the head of screws and the top side of Main Base. There should have no gap between the head of screws and the top side of Main Base.
After reinstalling, adjusting the tape transport system again.

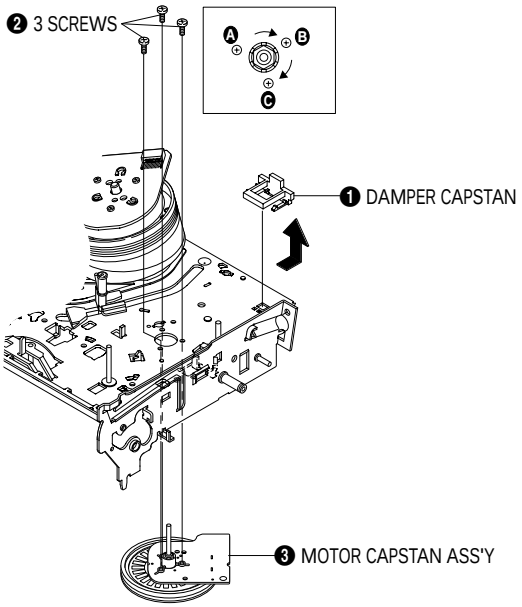


Fig. 1-32 Damper Capstan,Motor Capstan Ass'y Removal

1-2-27 How to Eject the Cassette Tape (If the unit does not operate on condition that is inserted into housing ass'y)

1) Turn the Gear worm ❶ clockwise with screw driver.(Refer to arrow)
(Other method : Remove the Screw of Motor Load Ass'y, Separate the Motor Load Ass'y)

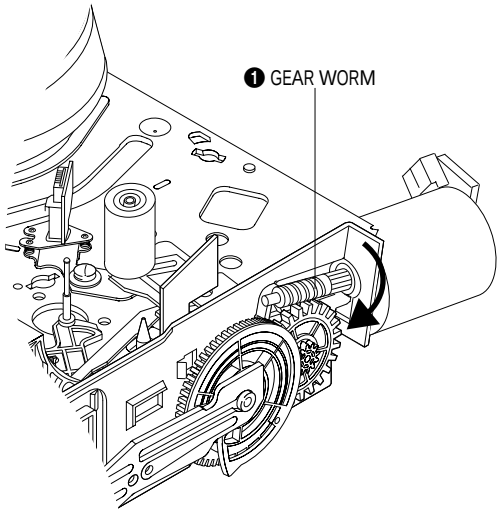


Fig. 1-33

2) When Slider S,T are approched in the position of unloading, rotate holder Clutch counterclockwise after inserting screw driver in the hole of frame's bottom in order to wind the unwinded tape. (Refer to Fig.1-34)
(If you rotate Gear Worm ❶ continuously when tape is in state of unwinding, you may cause a tape contamination by grease and tape damage. Be sure to wind the unwinded tape in the state of set horizontly.)
3) Rotate Gear Worm ❶ clockwise using screw driver again up to the state of eject mode and then pick out the tape.(Refer to Fig.1-33)

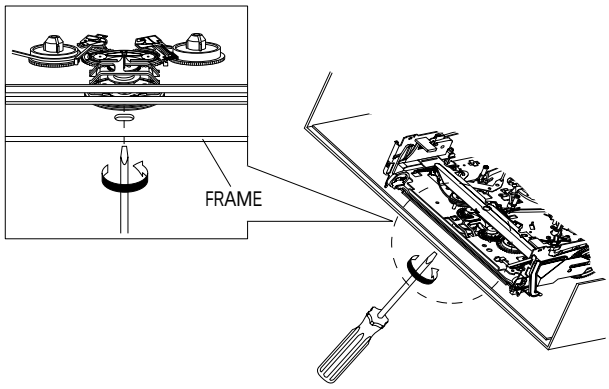


Fig. 1-33

1-3 The table of clearing, Lubrication and replacement time about principal parts

1) The replacement time of parts is not life of parts.
2) The table 1-1 is that the VCR Set is in normal condition (normal temperature, normal humidity).
   The checking period may be changed owing to the condition of use, runtime and environmental conditions.
3) Life of the Cylinder Ass'y is depend on the condition of use.
4) See exploded view for location of each parts.

<Table 1-1>

*	Parts Name	Checking Period										Remark
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
TAPE PATH SYSTEM	POST TENSION	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	- To clean the parts, use patch and alcohol (solvent). - After cleaning, use the video tape after alcohol is gone away completely. - We recommend to use oil [EP-50] or solvent. - One or two drops of oil should be applied after cleaning with alcohol.
	SLANT POST S, T	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	#8 GUIDE SHAFT	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	CAPSTAN SHAFT	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	#9 GUIDE POST	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	#3 GUIDE POST	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	GUIDE ROLLER S, T	Δ	Δ	Δ	O	O	O	O	O	O	O	
	CYLINDER ASS'Y	Δ	O	O	O	O	O	O	O	O	O	
	FE HEAD	Δ	Δ	Δ	O	O	O	O	O	O	O	
	ACE HEAD	Δ	O	O	O	O	O	O	O	O	O	
	PINCH ROLLER	Δ	O	O	O	O	O	O	O	O	O	
	POST REEL S, T		◆		◆		◆		◆		◆	- Periodic time of applying oil (Apply oil after cleaning) - The excessive applying oil may be the cause of malfunction.
	SLEEVE TENSION		◆		◆		◆		◆		◆	
	POST CENTER		◆		◆		◆		◆		◆	
	LEVER IDLE BOSS (2Point)		◆		◆		◆		◆		◆	
DRIVING SYSTEM	CAPSTAN MOTOR PULLEY	Δ	Δ	Δ	Δ	Δ	O	O	O	O	O	
	BELT PULLEY				O	O	O	O	O	O	O	
	HOLDER CLUTCH ASS'Y	Δ	O	O	O	O	O	O	O	O	O	
	GEAR CENTER ASS'Y		O	O	O	O	O	O	O	O	O	
	GEAR IDLE (2Point)		O	O	O	O	O	O	O	O	O	
	LOADING MOTOR		O	O	O	O	O	O	O	O	O	
BRAKE SYSTEM	BAND BRAKE ASS'Y		O	O	O	O	O	O	O	O	O	
	BRAKE T ASS'Y		O	O	O	O	O	O	O	O	O	

Δ : Cleaning O : Check and replacement in necessary ◆ : Add Oil

MEMO

2. Alignment and Adjustment

2-1 Tape Transport System and Adjustment Locations

The tape transport system has been adjusted precisely in the factory. Alignment is not necessary except for the following :
1) Noise observed on the screen.
2) Tape damage.
3) Parts replacement in the tape transport system.

Lower flange height of tape guide is used as the reference for the transport adjustment.
To maintain the height of the tape guide and prevent damage, do not apply excessive force onto the main base.

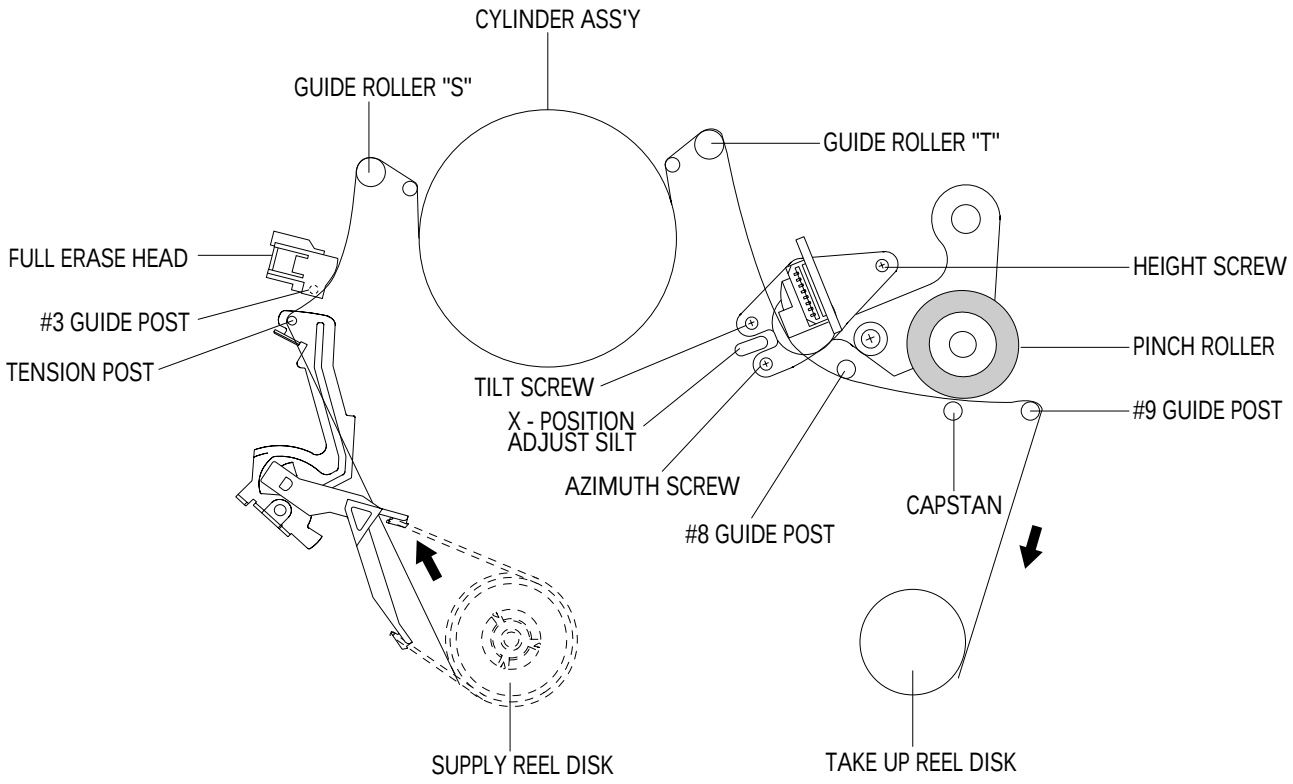


Fig. 2-1 Location of Tape Transport Adjustment

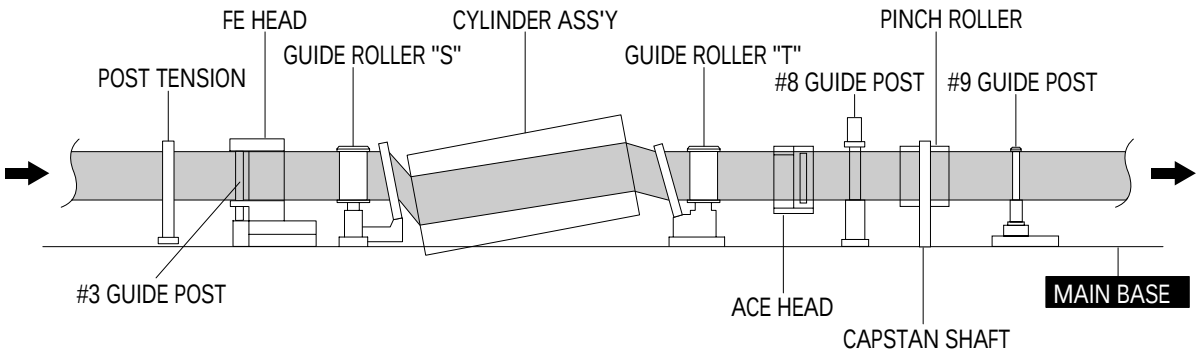


Fig. 2-2 Tape Travel Diagram

2-2 Tape Transport System Adjustment

When parts are replaced, perform the required adjustments by referring to procedures for the tape transport system. If there are any changes to the tape path, first run a T-120 tape and make sure excessive tape wrinkle does not occur at the tape guides.

1) If tape wrinkle is observed at the guide roller S, T, turn the guide roller S, T until wrinkle disappears.
2) If the tape wrinkle is still observed at the tape guide, perform the tilt adjustment of the ACE head. (See "2. Alignment and Adjustment" of the Service Manual for Test Point Locations.)

2-2-1 ACE Head Assembly Adjustment

2-2-1(a) ACE HEAD HEIGHT ADJUSTMENT

1) Run the alignment tape (Color bar) in the playback mode.
2) Observe surface of the audio head using a dental mirror.
3) Turn screw (C) clockwise or counterclockwise until the gap of lower tape edge and the lower edge of the control head is about 0.25mm. (Refer to Fig. 2-3 and 2-4)

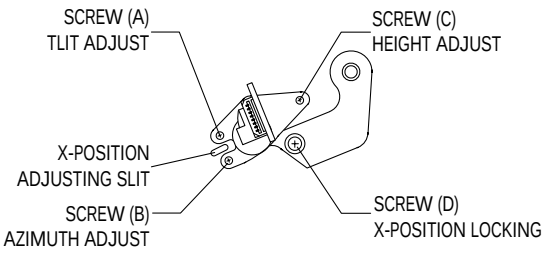


Fig. 2-3 Location of ACE Head Adjustment Screw

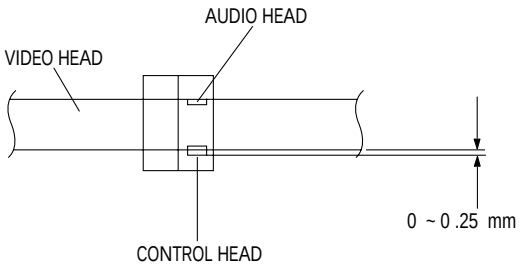


Fig. 2-4 ACE Head Height Adjustment

2-2-1(b) ACE HEAD TILT ADJUSTMENT

1) Playback a blank tape and observe the position of the tape at the lower flange of tape guide.
2) Confirm that there is no curl or wrinkle at the lower flange of tape guide as shown in Fig. 2-5 (B).
3) If a curl or wrinkle of the tape occurs, slightly turn the screw (A) tilt adjust on the ACE head ass'y.
4) Reconfirm the ACE head height.

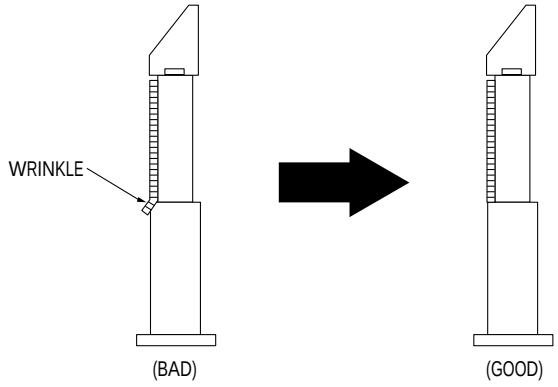


Fig. 2-5 Tape Guide Check

2-2-1(c) AUDIO AZIMUTH ADJUSTMENT

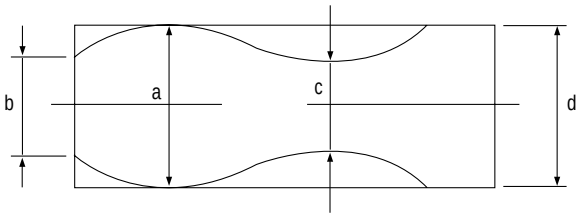
1) Load alignment tape (Mono scope) and playback the NTSC : 7KHz (PAL : 6KHz) signal.
2) Connect channel-1 scope probe to audio output test point.
3) Adjust screw (B) to achieve maximum audio level. (See Fig. 2-3)

2-2-1(d) ACE HEAD POSITION (X-POINT) ADJUSTMENT

1) See "2. Alignment and Adjustment" for ACE Head position (X-Point) adjustment.

2-2-2 Linearity adjustment (Guide roller S, T adjustment)

1) Playback the Mono Scope alignment tape (SP mode).
2) Observe the video envelope signal on an oscilloscope (triggered by the video switching pulse).
3) Make sure the video envelope waveform (at its minimum) meets the specification shown in Fig. 2-6.
   If it does not, adjust as follows :



a b c d
c,b,d/a ≧63%

Fig. 2-6 Envelope Waveform Adjustment

Note :
a=Maximum output of the video RF envelope.
b=Minimum output of the video RF envelope at the entrance side.
c=Minimum output of the video RF envelope at the center point.
d=Maximum output of the video RF envelope at the exit side.

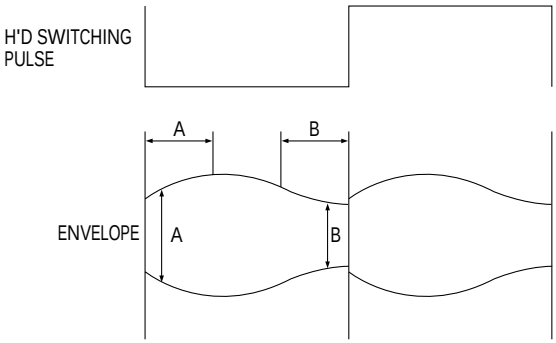


Fig. 2-7 Adjustment Points

4) If the section A in Fig. 2-7 does not meet the specification, adjust the guide roller S up or down.
5) If the section B in Fig. 2-7 does not meet the specification, adjust the guide roller T up or down.
6) Play back the Mono Scope alignment tape (SP mode).
7) Connect an oscilloscope CH-1 to the Envelope and CH-2 to the H'D SW Pulse for triggering.
8) Turn the guide roller heads with a flat head ( ) driver to obtain a flat video RF envelope as shown in Fig. 2-8.

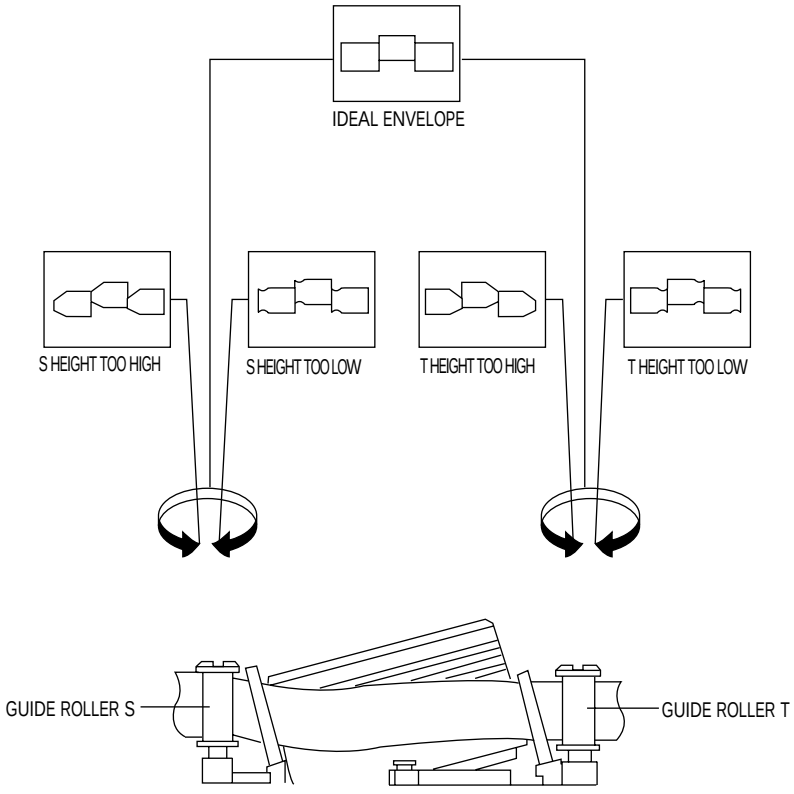


Fig. 2-8 Guide Roller S, T Height Adjustment

2-2-3 Check Transitional Operation from RPS to Play

Check transition from RPS mode to play mode :
Using a pre-recorded SP tape, make sure the entry side of envelope comes to an appropriate steady state within 3 seconds (as shown in Fig. 2-9).
If the envelope waveform does not reach specified peak-to peak amplitude within 3 seconds, adjust as follows :

1) Make sure there is no gap between the supply roller lower flange and the tape.
   If there is a gap, adjust the supply guide roller again.
2) Change operation mode from the RPS to the play mode (again) and make sure the entry side of envelope rises within 3 second.

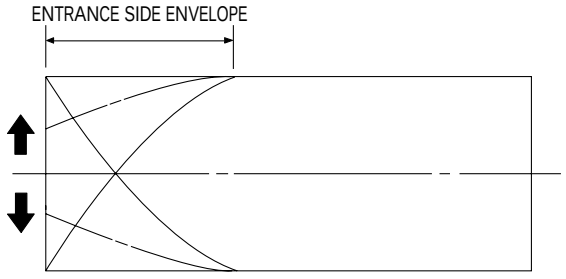


Fig. 2-9 Video Envelope Rising when Operation mode Changes from RPS to Play Mode

2-2-4 Envelope Check

1) Make recordings on T-120 (E-120) and T-160 (E-180) tape.
   Make sure the playback output envelope meets the specification as shown in Fig. 2-10.
2) Play back a self recorded tape (recording made on the unit using with T-120 (E-120).
   The video envelope should meet the specification as shown in Fig. 2-10.
   In SP mode, (A) should equal (B).
   If the head gap is wide, upper cylinder should be checked.

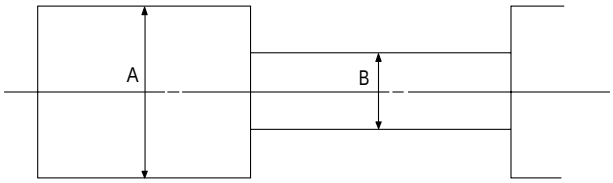


Fig. 2-10 Envelope Output and Output Level

2-2-5 Tape Wrinkle Check

1) Run the T-160 (E-180) tape in the playback, FPS, RPS and Pause modes and observe tape wrinkle at each guide.
2) If excessive tape wrinkle is observed, perform the following adjustments in Playback mode :

◆ Tape wrinkle at the guide roller S, T section : Linearity adjustment.
◆ Tape wrinkle at tape guide flange : ACE head assembly coarse adjustment.

2-3 Reel Torque

1) The rotation of the capstan motor causes the Holder Clutch Ass'y to rotate through the Belt Pulley.
2) The spring wrap PLAY/REV of holder clutch ass'y drives the disk reel S, T through gear idle by rotation of gear center ass'y.
3) Brake is operated by slider cam at FF/REW mode.
4) Transportation of accurate driving force is done by gears. (Gear Center Ass'y)

Note : If the spec. does not meet the followings specifications, replace the holder clutch ass'y and then recheck.

<Table 2-1>

MODE	TORQUE g/cm	GAUGE
PB	42 ± 11	Cassette Torquemeter
RPS	145 ± 30	Cassette Torquemeter